Trains

25¢

July, 1946

Preston George, 612 N. Hightower, Altus, Okla.

D&RGW Articulated

In the foothills of the Rockies near Coal Creek west of Denver a Rio Grande articulated and rear end pusher take a freight up toward the Moffat Tunnel. The first car is an auxiliary water tank. The second is a trailer ferry car with semi-trailers of the Rio Grande truck subsidiary.

Trains

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Volume 6, Number 9

July 1946

The "Golden Age of American Railroading" is at hand if this nation will but realize how easily it can be had and how generally all individuals, industries, and communities will share in the benefits which it will bestow upon the United States.—John W. Barriger.

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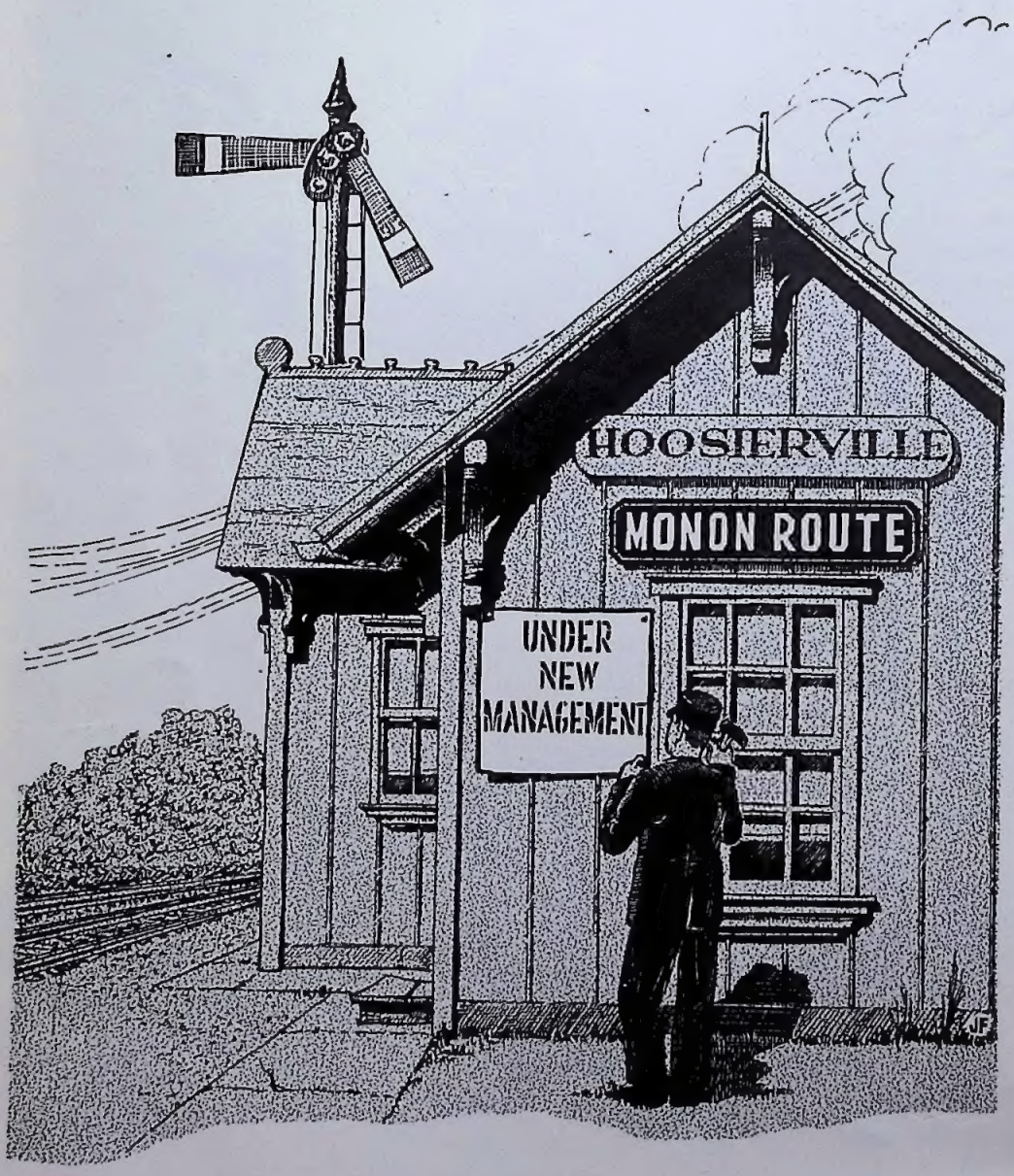


Chicago, Indianapolis & Louisville Railway

THE MONON ROUTE

When the Trains Stopped Running

It was May 23, 3:45 p. m. eastern standard time. The *Congressional* was picking up speed out of Newark, the *Commodore* was leaving Grand Central just as usual, and a suburban train moved into South Station, Boston, from the Highland branch. Mail was loaded at the dozens of big railway mail terminal post offices. A freight train left Selkirk Yard and another left Cedar Hill. Some 9800 freight and 7000 passenger trains were on the road. The huge U. S. railroad system was ticking normally, beating out the pulse of the country. Even after the short-lived strike of five days before hardly anyone thought the railroads would really come to a stop.

But railroad management knew the unions were playing for keeps. In a conference room on the fifth floor of Philadelphia's 30th Street Station passenger representatives, assistant station masters, road foremen of engines and other supervisory employees and officials were receiving instructions on working an emergency schedule of skeleton mainline service and restricted commutation trains. At Hoboken Terminal the Lackawanna was in the midst of the greatest suburban rush in its history, moving 28 extra trains with 300 extra cars outbound before 3:57 — just in case. The rush in Grand Central was worse than at the height of the Christmas crush. One woman was photographed diving into a suburban coach head first through a window.

The time was 4 p. m., and the strike was on. Many 4 o'clock trains had not been placed on station tracks and others, fully loaded, failed to run. The Pennsylvania's New York-Philadelphia "clocker" left one minute early to beat the dead line. But except for the few trains which did not start their runs, the railroads still continued to run. It was a creeping paralysis, for according to the terms of the strike train crews on the road at 4 o'clock brought their trains through to the next division point.

By the time 4 o'clock swept westward into the central time zone the strike was an established fact. Eastern roads were already doing what they could to operate emergency schedules. The emergency crews who had gathered in Philadelphia's 30th Street Station were out on the main line, after being personally thanked at the suburban station by Mr. Clement. A passenger asked the name of a ticket collector and led the rest of the passengers in three rousing college cheers. The few through trains still running were loaded with deadheading crews returning home.

By five o'clock the usually busy stations were nearly deserted. At the Milwaukee Road's Milwaukee station a pair of newspaper photographers were outside the gates under the train shed. Trainmen sat on waiting room benches in grinning and animated conversation. Back in the passenger offices the phone bells kept up an incessant clamor. Ticket agents leaned against their counters and struck up talk with whomever came near. Into the quiet of the big shed barked the voice of a locomotive, and around the curve came the train which had left Chicago at 3:45. The passengers were sparse, mostly North Western crews deadheading back, afraid to chance the North Western's 4:10 streamliner. The enginemen blinked at flash bulbs as they came down the gangway. Then the station was quiet.

The strike was moving westward across the country. Such trains as were on the road were moving as usual, but less and less trains remained as runs reached division terminals, tied up, and were not replaced by new trains. Some suburban crews moved rush hour trains outbound in order to finish the homeward half of round trip assignments. Mail trains, moved on to important postal terminals by nonunion crews, tied up at all hours until late in the evening. Here and there a troop train moved under the union agreement to furnish crews to move milk, troop and hospital trains. It was a queer, unworldly night, without the friendly whistle of locomotives and the undercurrent of exhaust from the sprawling freight yards.

By morning a light rain had coated the unpolished rails with bright orange red which underscored the sudden and complete suspension of life in the commercial arteries of the nation. Smoke drifted lazily from the stacks of several locomotives spotted near the coal chute, but the acres and acres of red coated yard tracks and the even brighter red on the mainline rails only emphasized the idleness of those cooling engines. And then an interlocking signal cleared to green. Something was coming, but what could it be on this completely dead railroad? A Diesel locomotive air horn broke the weird silence and around the curve came the most utterly screwball train makeup ever cooked up. A freight Diesel was pulling a train heating car, nearly a dozen storage mail cars, an R. P. O. car, and then, tied on to all this, the road's crack streamliner! The railroad was running, but not very much.

As the day drew on the importance of the railroads was more and more driven home to the average citizen. Incoming mail of business houses slimmed to a trickle. Parcel post and express stopped entirely. People suddenly were afraid they might not eat, and markets were mobbed. The coal mines, already so far behind because of the mine strike, now were again shut down because of lack of railroad cars. Factory workers found that it took the railroads to keep them at work and that even a 24-hour stoppage of rail transportation could put hundreds of thousands out of jobs. What no enemy had ever been able to do to our country was now being done by its own citizens.

The few trains which kept running were a good index of what was considered the most essential service. The Burlington kept the mails moving between Omaha and Chicago, and all principal Zephyrs ran. The New York Central put through a 16-car mainline train which made the stops of the *North Shore Limited* to Buffalo and of the *Mohawk* to Chicago. It carried a record movement of eight cars of first-class mail. On the first full day of the strike the Pennsylvania ran 31 food trains and 215 passen-

ger trains, mostly commuter. The Rock Island kept most of its *Rockets* and one California train running. Atlantic Coast Line adopted the unusual expedient of running trains in one direction on the first day and in the opposite direction the second day. Santa Fe ran the *Ranger* and the *Chief* and consolidated the *California Limited* with the *Fast Mail*. So it went. Each road picked the service considered most essential and kept as much moving as its supervisory forces could handle.

Then came the president's Friday night radio speech. A country already fed up with strike delays to reconversion was angrily demanding that something be done. The president took directly to the country his plea for a compromise settlement of 18½ cents an hour, 2½ cents being in lieu of rule changes. Truman said, "The effects of the rail tieup were felt immediately by industry. Lack of fuel, raw materials and shipping is bringing about the shutdown of hundreds of factories. Lack of transportation facilities will bring chaos to food distribution. Farmers cannot move food to markets. All of you will see your food supplies dwindle, your health and safety endangered, your streets darkened, your transportation facilities broken down." The talk ended with a request that the engineers and trainmen return to their jobs.

Next morning most railroads canvassed their crews by phone, but very few members of the two striking brotherhoods came back to work. The strike remained essentially effective. But in late afternoon, just two days after the strike began, came the president's address to the joint session of Congress and the dramatic announcement that the strike had been ended by acceptance of his compromise terms. Gradually the trains started to roll again. Probably first to move was the North Shore, which had a train out of Chicago within half an hour after the radio announcement. Other roads were held up longer periods of time while brotherhood men awaited the magic code words from Cleveland, but by Saturday evening the two-day blockade was over and most trains were once again on schedule.

The country received no permanent bruises, except for another bad inflationary setback to the production program, but it was left with a definitely deeper understanding of what the railroads mean in daily life. The president did not fare as well as the country. To him labor promptly applied its choicest epithet, "strikebreaker." And other people, who had breathed a big sigh of relief and applauded as they heard the Saturday afternoon speech, became more troubled as they thought it over. Many a thoughtful person wondered what the president had expected after actually encouraging the start of the vicious postwar wage-price inflation cycle last fall. There seemed a general regret that a halt had not been called sooner, and that the railroad brotherhoods, best disciplined of all unions, should bear the brunt.

For the railroads all major plans are more or less suspended until some decision comes from the I. C. C. on freight rate increases. The wage increase does not seem large expressed in cents an hour, but every penny means $40 million in railroad pay roll, and U. S. carriers are completely in the red until they get rate relief. Even the blue chip Pennsylvania, with its record of dividends every year for 100 years, lost money for the first quarter of 1946. For some small roads, such as Chicago, Aurora & Elgin which gets most of its revenue from passengers, liquidation seems the only answer. But in most cases the consumer will pay the bill, adding still further to the inflationary pressure that will continue to increase until production exceeds demand.

Odds and Ends

The Mount Washington Cog Railroad was not affected by the railroad strike and work crews continued to ready the line for a Memorial Day opening, first since the war. . . . The Western Pacific originated special through Pullmans to New York City for Oakland fans traveling to the Louis-Conn fight. . . . Southern Railway has presented an old locomotive bell to the Moravian church of Bethania, N. C., to replace a 139-year-old bell lost in a fire four years ago.

The last passenger carrying trolley line in Vermont, Springfield Terminal Railway, will discontinue passenger service soon. The line will continue as a freight connection from Springfield to the B&M at Charleston. . . . Bob Butterfield, famous engineer of the NYC's *Century* and *Empire*, died after several years' retirement and has been buried in Sleepy Hollow Cemetery at Tarrytown not far from the main line over which he used to run.

The *Coronation Scot*, English streamlined train which came over for the New York World's Fair and then got stranded here by the war, has been returned to England. The locomotive had been sent back early in the war to help out in the critical shortage over there, but the cars remained in Jeffersonville, Ind., where they were used as officers' headquarters. The American locomotive whistle presented to the *Coronation Scot* in 1939 by the readers of THE MODEL RAILROADER magazine as a token of international friendship is on exhibition at one of the London, Midland & Scottish stations. . . . The New York Central has released a new sound motion picture entitled "The Railroad Signal." It is the third in the popular "Running the Railroad" series. Information may be had from NYC Motion Picture Bureau, 466 Lexington Avenue, New York 17, N. Y.

Railfan Trips

National Railway Historical Society sponsors a full list of trips for this year: July 14, Monongahela & West Penn; July 14, open car trip in New Haven; July 21, Dunkirk, Allegheny Valley & Pittsburgh branch, NYC; Aug. 11, Hartford to Saybrook Valley; Aug. 31, Sept. 1 and 2, national convention, Buffalo; Sept. 15, Springfield Terminal Railway, Vermont; Oct. 6, East Broad Top; Oct. 13, New Haven to Northampton; Nov. 10, New Haven trolley tour. Details may be had from Howard E. Johnston, 78 Sandford Avenue, Plainfield, N. J.

Railroads in Technicolor

Under the title "All Aboard" Warner Brothers has produced a short about the railroads of today. It's worth seeing.

Western Railroad Map

Best wall-size railroad map of the West that we've seen and the only one readily available to the general public is the 62 x 46-inch map of territory west of Chicago

"I've got a partner who works day and night!"

"EVEN WHEN I was a hired hand, I knew how much a farmer depends on the railroads. Now that I've got my own place, I think of the railroads as a hard-working partner of mine.

"Railroad tracks hook up my farm with every market, town, and city in the country. Today, the whole U. S. A. is a customer for the crops I grow. What's more, the things I need—the machinery, fertilizer, stock, lumber, and feed I buy—mostly move by rail.

"The railroads are working in partnership with me, all right—working day and night."

Whether it be a farm, a store, or a manufacturing plant—the American railroads are an essential part of every local business. Fanning out over the broad land, the vast network of railroad track is the arterial system that pumps new life—in the form of raw materials, supplies, and machinery—into every community; it takes back the products of farm and factory to feed, clothe, and house America's people.

This reliance of the people on their railroads is strengthened still further by the fact that the railroads are home-town partners in every community they serve. They buy supplies locally, employ local people, own local property, and pay local taxes on it.

These taxes help support local schools, local courts—and other public services of all sorts.

ASSOCIATION OF **AMERICAN RAILROADS** WASHINGTON 6, D. C.

IN PARTNERSHIP WITH ALL AMERICA

issued by the Burlington Route. It shows all western roads, each in a distinctive color. Copies can be had for $1 from Albert Cotsworth Jr., Passenger Traffic Manager, Chicago, Burlington & Quincy Railroad, 547 W. Jackson Boulevard, Chicago 6, Ill.

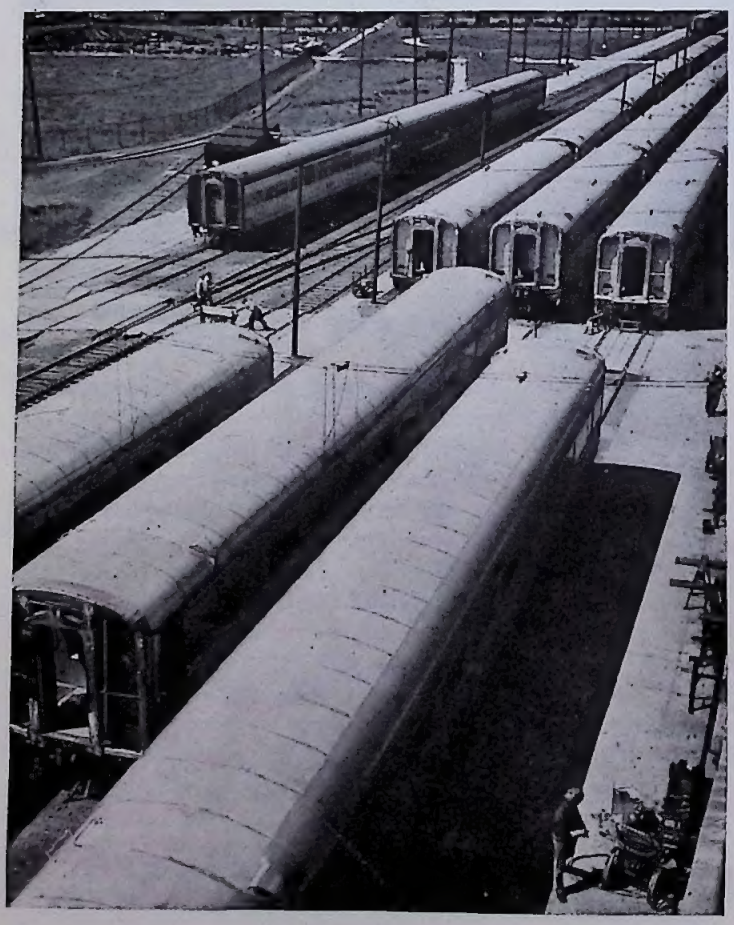
Locomotive Notes

After five months of testing, the Union Pacific has purchased the first Fairbanks-Morse road Diesel and is using it in passenger service. The locomotive was geared at 75 m. p. h. for passenger service. . . . Montreal Locomotive Works is building 14 Mikado type steam locomotives for the Nigerian Railway. . . . Coal will continue to be a prime fuel for railroad motive power, according to R. Tom Sawyer, engineer of American Locomotive Co. Alco is now experimenting with gas turbine locomotives to use pulverized coal as fuel. . . . The Milwaukee Road has four new 4000 h. p. Electro-Motive road Diesels in service on *Hiawatha* runs and overnight Chicago-Twin Cities trains. One of the older Diesels has been split into two 2000 h. p. units for Chicago-Rapids City trains.

New Trains

The new Chicago & North Western-Union Pacific nonextra fare 49-hour train between Chicago and Los Angeles has been named the *Transcontinental*. It carries through sleeping cars from New York and Washington, handled east of Chicago on the *General*, the *Commodore Vanderbilt* and the *Liberty Limited*. . . . Atlantic Coast Line is advertising for bids on 117 passenger cars for New York-Florida service, to be purchased and used jointly by Pennsylvania, RF&P and Florida East Coast as well as ACL. . . . Canadian Pacific has ordered 35 new air-conditioned coaches for delivery early next year. Double bedroom-roomette cars and express-baggage cars will also be ordered.

American Car & Foundry has received orders for 14 85 foot sleeping cars from Union Pacific; four 85 foot sleeping cars from C&NW; four 85 foot sleeping cars from Wabash. These cars will be used for joint operation by the three roads. . . . Milwaukee Road's new streamlined Diesel powered transcontinental train will be called the *Olympian-Hiawatha*. Equipment is now under construction but will not be finished until early in 1947. . . . The *Panama Limited* between Chicago and New Orleans has been speeded up one hour. . . . Great Northern plans three new streamlined trains to operate between St. Paul and Grand Forks and between Seattle and Vancouver. Delivery of equipment is at least 18 months away. The trains will be five-car Diesel powered coach trains with coffee shop-observation cars.



Unfinished passenger cars, badly needed for railroad postwar modernization programs, glut the yards of Pullman-Standard Car Manufacturing Company. The new cars remain unfinished for lack of seats, air-conditioning, roller bearings and an assortment of other materials held up by labor difficulties of suppliers.

New Refrigerator Cars

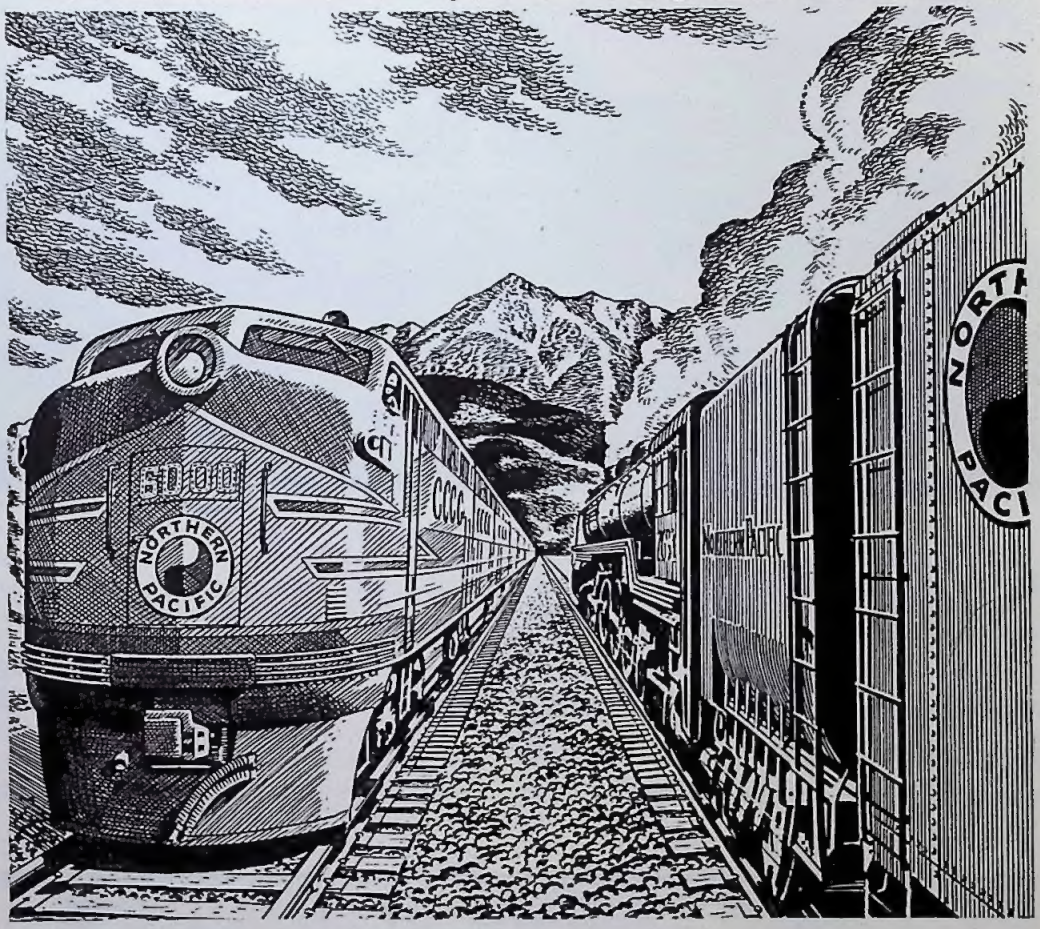
Pacific Fruit Express, jointly owned by Union Pacific and Southern Pacific, has placed orders for 2000 lightweight refrigerator cars with radical design improvements. Delivery is expected to start early in 1947. Each car will weigh about 4000 pounds less than conventional cars and will have much improved insulation, riding qualities and air circulating facilities. Improved convertible bulkheads may be folded back to give additional space.

Steam vs. Electric

Engineer Charlie McCullough, who handles one of the Pennsylvania's GG-1's between New York and Washington, has given us a practical man-in-the-cab definition of the difference between steam and electric locomotives. He says, "On a steam locomotive it takes you four minutes to find the trouble and five hours to fix it, but on an electric it takes you five hours to find the trouble and four minutes to fix it."

A. C. Kalmbach.

MAIN STREET



Transcontinental conveyor belt

Every few hours, day and night, another section of No. 603 speeds westward along the Main Street Of The Northwest. Somewhere, at any given moment, some section of this famous Northern Pacific hot-shot is on the move.

This "chain-train" and her eastbound twin No. 602 are now on schedules 24 hours faster than during wartime . . . they are, in effect, constantly moving conveyor belts, 1900 miles long, carrying whopping big loads of food, timber, fuel, minerals, machinery, and merchandise on Main Street.

By efficient, dependable operation of these and other fast freight trains, by constant improvement of our railroad and by active assistance to agriculture and industry, Northern Pacific does its best to keep all the lights bright along Main Street.

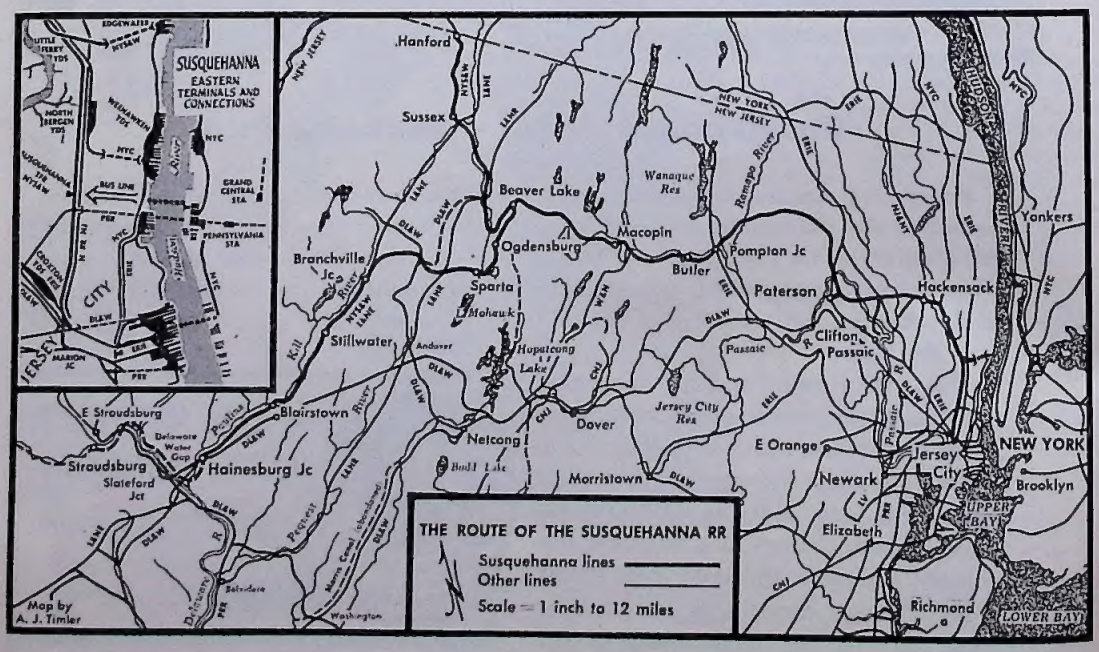
NORTHERN PACIFIC
YELLOWSTONE PARK LINE
MAIN STREET
OF THE NORTHWEST

W. R. Hicks, 25 Hawthorne Ave., Glen Ridge, N. J.

Susquehanna

Modern suburban service and Diesel freight service distinguish this rejuvenated New Jersey railroad

BY WALLACE W. ASHLEY



The headlights of streamlined rail cars and Diesel-electric locomotives are spotlighting an efficient bit of railroad reorganization as they speed along the Susquehanna tracks in New Jersey these days. For Henry K. Norton, trustee of the New York, Susquehanna & Western, expects his I. C. C.-approved reorganization plan to be put into effect early in 1947, just 10 years from the time a Federal Court directed the Erie to relinquish control.

The Susquehanna has been a separate operating unit since March 1, 1940, when Walter Kidde, court-appointed trustee, and Norton, then executive officer, broke away completely from Erie domination. Final reorganization will make the Susquehanna truly independent for the first time in 48 years. Ownership of outstanding junior bonds, in which the Erie does not figure at all, will govern distribution of the new corporation's stock.

Today the Susquehanna is paying its own way, and more. This is due to various operating economies and improved arrangements with connecting roads. Some of the changes have been effected quietly. Others, such as the adoption of streamlined, air-conditioned motor cars for commuters and the introduction of connecting bus service directly to midtown New York, have drawn widespread attention.

Latest of these Susquehanna "success stories" is its achievement as the first Class I railroad in the United States to abandon steam power. In 1936 everything moved with steam. Today internal combustion engines do the entire job in freight, passenger and switching service. To this new type motive power Norton gives a good deal of the credit for the financial revitalization of the road.

The Susquehanna took an initial dramatic step toward elimination of steam power back in July, 1940, when the first of two 80-passenger, streamlined, air-conditioned motor cars greeted delighted commuters along the line. These fast, trim motor railers brought a touch of the New York World's Fair to a suburban area long accustomed to the commuting equipment of the Erie and its identical counterpart on the Susquehanna — standard steel coaches, usually painted a dull black, with movable windows and their accompanying drift of soot and cinders.

Actually the Susquehanna, under the guidance of Kidde, now deceased, and Norton, had already moved forward quite a bit in the three years since that day in Newark Federal Court. Norton and Kidde, who because of their very lack of railroading background were not hesitant about applying new ideas to an old business, had painted the cars a deep maroon and gray and refitted the interiors so that their resemblance to Erie rolling stock was limited to their exterior shape and the unchanged car numbers.

Another forward step had been taken because Norton and Kidde were irked by the fact that their eastbound trains veered and sped almost due south for seven miles, from Babbitt station to the Erie's Jersey City Terminal—roughly paralleling Manhattan, a scant three miles away, from 96th Street to Chambers Street. In other words, right past the busy midtown area. The two "amateur railroaders" took the revolutionary step of inaugurating shuttle bus service from Times Square in Manhattan via the Lincoln Tunnel to a new station in North Bergen, which they called "Susquehanna Transfer."

On and after August 1, 1939, Susquehanna commuters and other passengers were given the choice of continuing to Jersey City by train if their destination was in New York's downtown financial district, or transferring to a trainside bus for a quick run into the heart of midtown Manhattan. The train-bus service saved 20 to 25 minutes a trip for those who had been making the roundabout journey south to Jersey City, east across the Hudson River by ferryboat or Hudson Tubes (Hudson & Manhattan Railroad) and then north again by subway.

Needless to say, this innovation not only pleased the regular riders but attracted back many who had forsaken both Susquehanna and Erie for bus lines using the vehicular tunnel. In 1939 the Erie was operating 20 weekday trains and six Sunday trains on the Susquehanna and carrying 2400 commuters a day. By the end of 1940 the Susquehanna — by that time divorced from the Erie — was operating 81 weekday and 37 Sunday trains.

Wartime traffic boosted the total of fares paid on the streamliners to 104,605 a month by March, 1945, a figure that dropped somewhat with the reduction of North Jersey war plant operations after V-E day and again after V-J day, but rose once more to 104,437 in December.

The Erie, whose Northern Railroad of New Jersey trains share the tracks with the Susquehanna between Babbitt and Jersey City, soon took the hint. Englewood and Nyack commuters now get the benefit of the bus connection.

But that's getting ahead of the story. Despite these two radical steps Norton and Kidde had taken — revamping of equipment and in-

auguration of Times Square bus service — commuters and other passengers along the line were hardly prepared for the new rail cars.

True, there had been newspaper announcements that the Susquehanna was buying two new motor cars. But that didn't mean much; hadn't they been riding occasionally on two gasoline-electric cars rented along with other rolling stock from the Erie?

Thus the first American Car & Foundry streamliner caught most everyone by surprise. Placed on display on sidings at Paterson and later at Hackensack, the picturesque, mile-a-minute car with its double-ended operation, its sliding side doors, its maximum of window light — above all, its real, honest-to-goodness air conditioning for the lowly, downtrodden commuter — this car, to repeat, was something to see. And people came from far and wide to look it over.

Delivery delays held up the streamliner's twin, but one of the earlier gasoline-electric cars was pressed into service to meet the augmented schedules Norton and Kidde soon found were required to handle the Times Square traffic.

As progressive in matters of freight service as in improving passenger operations, although perhaps not so spectacular, the "inexperienced" new masters of the Susquehanna's destiny accepted from the start the fact that the road's freight role would remain that of a short haul and connecting line, and accordingly they started to look around for new business.

One thing they found was that the New York, Ontario & Western was transferring anthracite to the Erie at Scranton for delivery to Hudson River coal piers. The Erie was moving it to the Susquehanna at Passaic Junction, about 10 miles from Edgewater. Norton and Kidde talked it over with the O&W early in 1940, and pretty soon the O&W was hauling the anthracite to Middletown, N. Y., and turning it over to the Susquehanna at Hanford, via the Middletown & Unionville, for a 66-mile run to Edgewater. The Susquehanna made $100,000 on this traffic the first year.

The Susquehanna managers surveyed all its through haul arrangements and battled successfully for a fairer division of tariffs on a number of them. A major battle in this category, involving trackage rights the Erie had granted the NYC at Edgewater, is still in the courts.

On the operating front, Kidde and Norton called in their general manager, A. L. Kline, "inherited" from the Erie, and talked over costs. After those conferences, which gave due thought to the streamliners' success and to the average age of the steam locomotives which dated back to the days of Erie operation, attention turned very definitely to internal combustion.

By 1941 the first Diesel-electric locomotive

Michael Caputo, 201 E. 48th St., New York, N. Y.

was rolling on Susquehanna rails. It was a 1000 horsepower supercharged unit built by the American Locomotive Company and the General Electric Company for switching purposes, weighing 230,000 pounds on drivers, with a starting tractive force of 69,000 pounds.

Eight had been ordered, and they were delivered as fast as Alco-GE could build them. But Uncle Sam had begun to take a hand in things, and Kidde and Norton saw two of their new switchers taken over by the government. In a way, that was an assist, because by that time Alco-GE had developed a bigger and better Diesel-electric.

The Susquehanna had hoped to use the switchers in passenger service, but tests proved them inadequate to meet the schedules. At speeds over 30 miles per hour their nosing tendencies played havoc with a passenger train. Then Alco-GE offered its new Diesels and the Susquehanna snapped them up, eventually buying 10. Designed for maximum speeds of 70 miles per hour and most efficient at 60, they were equipped with steam generators for train heating and were just the thing for use on passenger runs when not needed for freight.

It wasn't long before a group of commuters, waiting for the morning train, was taken aback to see it arrive behind a blunt-ended maroon and gray contraption looking like nothing so much as a gaudy, over-sized icebox perched on a wheeled platform, with a railing around it and a cab-like arrangement near the rear. But it moved, and in quite sprightly fashion, too. The train arrived at Jersey City as scheduled, perhaps a minute early, in fact, and the stopping and starting seemed actually smoother. Soon enough the commuter adapted himself to this new marvel of locomotion and returned his attention to his newspaper or his card game.

Gradually, almost imperceptibly, the snorting monsters of old slipped out of the Susquehanna commuters' lives, unlamented. Vociferously as many a railfan may protest, the average commuter holds no great love for the nearly animate beast of burden that has made our railroads great. We who ignore the dirt and grime in the sheer pleasure of watching a giant articulated blast its way up a mountain grade at the head of a mile-long freight may not understand it, but most commuters prefer the quiet cleanliness of a multiple-unit electric coach or its cousin, the Diesel.

Today the steam locomotive is gone from the Susquehanna. Well, almost gone. The road still owns three of them, a 4-6-2 and two 2-10-0 "Russian" type hoggers. Two are utilized as

Alco road-switching Diesels of 1000 horsepower double in freight and suburban passenger service, helping Susquehanna to cut down the number of locomotives needed to move its traffic. Boiler for heating the cars is at rear of cab.

W. R. Hicks.

Richard H. Young, 73 Union Ave., Clifton, N. J.

stationary units providing an auxiliary steam supply in Little Ferry Yard and for the tower at Hainesburg Junction. All three are kept in running condition as stand-bys. Two or three times one or another of them has been called out because of a sudden heavy volume of freight traffic. And there is always the slim possibility that several of the Diesels might go out of service at one time, and three steam locomotives could help out mightily in such a case. Railroaders in the New York area recall that the Lackawanna's commuting service was crippled one afternoon a few years back when an ice storm put its overhead power system out of order, and steam locomotives were rushed in to save the day for the electrified Morris & Essex Division.

But to get back on the track — the Diesel track. Norton and Kidde looked over the records at the end of 1942, the first year in which any Diesel locomotives were in operation a full 12 months, and they were happy about what they saw. Here are the comparative figures:

In 1936 the Susquehanna handled 159,000,000 gross ton-miles in freight service and 449,000 train-miles in passenger service. To do this it

Susquehanna.

Frank Quin, 8414 88th St., Woodhaven, N. Y.

It's fun to ride the Susquehanna. Only an hour and one half is needed to ride out to Paterson City station and back to the Times Square bus terminal. Coming back on the train it's no trick at all to get the front seat alongside the engineer. A longer ride is out to Butler, limit of suburban service on the main line. The steam locomotives are now gone, but the scenery remains, along with plenty of railroading both on and alongside of the Susquehanna. Train at top of opposite page is last passenger run to Sussex, now freight only. Above is typical pre-Diesel rush-hour train near Ridgefield Park, N. J. Trains below are tearing along side by side on Susquehanna and parallel West Shore tracks at Ridgefield Park. Freight train on opposite page is in high Walkill Valley near Sparta and Lehigh & Hudson railroad crossing.

Frank Quin.

used 41 steam locomotives, either owned or leased. In 1942 five Diesel-electric locomotives, 30 steam locomotives and four motor cars, including the two ACF streamliners, handled 173,000,000 gross ton-miles in freight service and 465,000 train-miles in passenger service. The increased traffic was moved with 39 power units instead of 41.

Purchase of four additional Diesels and two additional ACF motor cars which are operated as a two-car train enabled the Susquehanna to scrap 13 other steam locomotives by the end of 1944. In that year 17 steam locomotives, nine Diesel-electrics and six motor cars handled 220,700,000 gross ton-miles of freight and 479,-862 passenger train miles.

Decision to go all Diesel was reached in 1944 at a conference of Susquehanna and Alco-GE representatives which reviewed performance records and the economies inherent in operating fewer units of motive power, some of them in continuous 24-hour service.

During 1945 Alco-GE delivered seven Diesel locomotives, boosting the total to 16. The seven, together with one delivered late in 1944, illustrate graphically what the Susquehanna does with its maroon and gray equipment. (The colors were never applied to the former locomotives.) These eight newest Diesel-electrics replaced 16 steam units, 10 of them 2-10-0 type freight locomotives and six of them 4-6-2 passenger engines. The Susquehanna expects them to do the same job with savings estimated at 29.4 per cent on the investment, which means they should pay for themselves in a little over three years' time.

This saving, $202,270 annually on an investment of $688,000, will run somewhat higher than the saving experienced with the first eight locomotives, $180,000 annually on $643,000. The later units are in part supplanting passenger locomotives that stood idle most of the day, whereas the freight equipment scrapped when the first eight Diesels arrived had been in use most of the time.

Six of the 16 Alco-GE locomotives are the 1000 horsepower switchers first purchased, costing $78,500 apiece. The other 10 are the road service locomotives, half as long again as the switchers and with the cab near the rear instead of at the end. Bought for $86,000 each, they are 1000 horsepower supercharged units, weighing 240,000 pounds and with a starting tractive force of 71,400 pounds at 30 per cent adhesion.

Eight of the road engines and four of the switchers are equipped for multiple-unit operation. Two-unit operation is found necessary between Butler and Beaver Lake for westbound freights of 1000 tons or over, due to a 6.4 mile grade of 1.22 per cent. Elsewhere a single unit can handle 1000 tons, and east of North Hawthorne no heavy grades at all are encountered. The greatest volume of traffic is found between Paterson and Edgewater.

Sixteen of the 31 locomotives that no longer ride the Susquehanna rails were built in 1918 for the Russian Imperial Government Railways and converted to standard gauge when the sale fell through. Their wheel arrangement was 2-10-0, they weighed 197,900 pounds apiece and their tractive force was rated at 51,500 pounds each.

There were also eight 4-6-0's built in 1904, weight 185,210 pounds, tractive force 28,665 pounds; two 4-6-2's built in 1906, weight 243,550 pounds, tractive force 30,040 pounds, and five 0-6-0 switchers of 1904 and 1912 vintage, weight 148,000 pounds, tractive force 31,820 pounds.

The Susquehanna now operates 117.5 miles of road, having abandoned in 1940 the 11.9 miles from Hainesburg Junction through the Delaware Water Gap to Stroudsburg, Pa. That scenic but costly stretch included an ancient bridge deemed unsafe for more than one locomotive at a time. As a result of the abandonment, all the Susquehanna's rails now lie within New Jersey.

The longest freight run is 79 miles, from Hainesburg Junction — where the Lehigh & New England comes in from across the Delaware River to use Susquehanna rails for 18.4 miles before heading for Campbell Hall and Maybrook — to Little Ferry Yard. From Little Ferry some coal and merchandise continues to Jersey City nine miles away, but the bulk of it leaves the main line and proceeds through a tunnel beneath the Palisades into Edgewater, where extensive yards include Hudson River pier facilities, a wealth of industrial sidings and the West Shore interchange.

A single track on which Susquehanna passenger trains once operated into the Pennsylvania's Jersey City Terminal still carries Susquehanna freight across the Erie's Croxton Yard, beneath the Lackawanna and the highway approach to Pulaski Skyway and onto the Pennsylvania's freight tracks at Marion, just west of Journal Square in Jersey City.

Connections with the various lines of the Erie are made at Croxton Yard in Jersey City

W. R. Hicks, 25 Hawthorne Ave., Glen Ridge, N. J.

Edgewater, N. J., is the Susquehanna's tidewater terminal on the Hudson River across from upper Manhattan. Among the modern facilities here is a coal unloader which handles much hard coal from the eastern Pennsylvania fields.

and at Hackensack, Passaic Junction, Hawthorne and Pompton Junction.

Freight connections besides those with the Pennsylvania, the Erie, the M&U and the L&NE, are with the West Shore at Edgewater and at Little Ferry, with the Wharton & Northern at Green Pond Junction and with the Lehigh & Hudson River at Franklin Junction and at Sparta Junction. Lackawanna interchange is handled by the Erie via Croxton Yard, Jersey Central interchange through Weehawken.

For a short line railroad the Susquehanna does a sizable business, and this was enhanced by the wartime rise in freight traffic since the road serves a segment of highly industrialized metropolitan New Jersey. In 1943, for example, the NYS&W handled 6,491,035 revenue tons of freight, about 63 per cent of it coal and 37 per cent merchandise. The 1945 total, reflecting postwar cutbacks, dipped below 5,000,000 tons.

Freight received from connecting roads accounts for 90 per cent of the total. Coal, the largest single commodity, arrives from the O&W, the Erie and the two "Lehigh" lines, which tap the Pennsylvania anthracite fields. It is shunted from Little Ferry through the Palisades tunnel to the Edgewater pier for transshipment by water. A considerable quantity of cement is hauled in from the L&NE.

Susquehanna passenger service really shines in the morning and evening commuting hours, when the two-car ACF motor railer is in operation. This and the earlier ACF cars make the 15-mile run from Paterson to Susquehanna Transfer in 20 minutes nonstop or 25 minutes if passengers are picked up at Hackensack and intermediate points. A bus trip of 15 minutes gets the Paterson rider to the Times Square Terminal (near an Eighth Avenue subway station but actually a block from the square) 35 to 40 minutes after boarding the train.

Before Norton and Kidde stepped in, the fastest service from midtown Paterson to midtown New York was a 45-minute bus trip, subject to traffic delays. A somewhat longer time was required for the combination of Susquehanna or Erie to Jersey City, Hudson Tubes under the river and subway uptown. But now, paying 10 cents for each Lincoln Tunnel trip, the Susquehanna passenger saves five or 10 minutes or more and gets a single ride that is five cents cheaper than the tubes-and-subway route to the Times Square zone via Jersey City.

The ACF motor cars, two of them operated together and two singly, carry the traffic be-

W. R. Hicks.

Out in the highlands of Sussex County, the northwest corner of New Jersey, stands this lonesome station which no longer sees passenger trains. The single line here is in contrast to the heavily ballasted double track on the eastern portion of the road (opposite page) where suburban trains run on close headway, although no longer behind steam.

tween Paterson City station and Susquehanna Transfer and do not go into Jersey City. The longer hauls, between Jersey City and various points west of Paterson, are handled by Diesel-drawn trains.

Inauguration of the service to Paterson City station is an unusual instance of going backwards to go forward. At the turn of the century westbound Susquehanna trains branched off from the main line at Broadway station in Paterson and proceeded .75 mile through a narrow cut below street level to a station called Paterson City, adjoining the Erie near its main Paterson station at Market Street. A connecting track which then led onto the Erie was eliminated when the Erie's main line was elevated.

The train would then back out through the cut and onto the main line at Broadway, and proceed west on the regular route. Eastbound trains reversed the process. Because of the delay to Susquehanna trains in this procedure, because the Erie could provide faster transportation to the Jersey City Terminal used jointly by both roads, and because of bus competition, this Paterson service was abandoned in 1913.

Norton and Kidde looked over the spur line, relegated to local freight operations, and decided it belonged in their scheme of improved service between Paterson and New York, since the main line Broadway station is out of the central business and shopping district. The roadbed and track were put in shape, clearances were improved for the streamliners, a small but modern station replaced the antiquated, disused building — and Paterson City bustled again. Passengers board the trains at street level, a few steps in from the sidewalk. Double-end operation obviates the need to "back up," and the streamliners roll directly onto the main line after a pause beside a new platform at Broadway station.

Although presently operating as a two-car unit, the two newest ACF cars can be used singly. Built at the St. Charles, Mo., plant of ACF, they are coupled together with a cab and complete control equipment at each end. Seating 70 passengers each, the cars are capable of a maximum speed of 73.5 miles per hour whether operated singly or as a two-car train, and can attain their maximum speed in three minutes over a distance of two miles.

Each car is powered by two Waukesha six-cylinder spark-ignition oil engines developing 210 horsepower each at 1800 revolutions per minute. The two-car unit will easily make its schedule on any three of the four engines, which permits the maintainers to "round-robin" their periodic work on the four power plants.

Each power plant is complete in itself and independent of the others. Smooth operation is achieved through the use of hydraulic torque

Robert F. Collins, 16 Lee Ave., Glen Rock, N. J.

converters for starting and acceleration, eliminating starting jerks. Hydraulic snubbers on trucks eliminate any bad lateral, vertical and nosing shocks.

The front or cab end of each car accommodates five windows, giving the operator excellent vision and allowing a left front "railfan" seat. Wide vestibules are equipped with swing doors and retractable steps to facilitate loading and discharge of passengers. The stair well is covered when the steps are locked in the closed position.

The cars are equipped with double-glazed dehydrated sash and reclining seats with foam rubber cushions and high backs. There is a side ceiling light fixture over each seat.

Air conditioning and heating are provided by an ACF all-weather unit, including a 7½ ton capacity air-conditioning unit. The cooling system is governed by automatic temperature and humidity control. Heating is accomplished by reversing the air flow through this unit, passing it through fine coils heated by hot water from the engine cooling system. Supplementing the hot water from the engine is a 12-kilowatt electrical heating unit.

The roofs of the cars are painted aluminum. The Susquehanna's now traditional colors are divided by the belt rail, maroon below and light gray above. The interior decorative scheme is built up around two shades, blue and gray.

On these ACF cars the engineman's task is no simple stint. A switch box with 11 push buttons controls engine priming and starting, headlight, control switches for cab, converter shift, train signal system, classification and marker lights, and cab lights.

A master controller controls four electro-pneumatic throttle operators which operate each engine locally. Each cab is equipped with dead-man brake control which will automatically make an emergency application unless either a foot pedal or the brake valve handle is depressed. Brake equipment is New York Air Brake Company's schedule S. M. E. Sanding is controlled by a foot-operated switch except in case of an emergency brake application, when it is automatic.

The Susquehanna progress has by no means been a hit-or-miss proposition. Before that first radical step, the institution of bus service beneath the Hudson, commuters were quizzed on their riding habits, their daily destination, the distance between their homes and the nearest station, the route followed after arrival at Jersey City.

The bus service was established because the questionnaires showed 300 of the 2400 commuters of 1939 were headed for the Manhattan area between 34th and 50th streets. Norton and Kidde believed the 300, together with the

probable attraction of passengers not then using the Susquehanna, were sufficient to warrant the difficulties involved in obtaining I. C. C. permission, in arranging for bus service and in constructing the new Susquehanna Transfer station.

The busses, incidentally, are not owned or operated by the railroad. Public Service Interstate Transportation Company, a subsidiary of New Jersey's giant utility concern, supplies both busses and drivers under a contract which enables the Susquehanna to specify the size and type of vehicles used — and to have its distinctive maroon and gray colors and its name on the busses. The destination signs read "Susquehanna Transfer."

Kidde and Norton obviously could not have foreseen the war and its attendant spurt in rail travel, but in their improvement of Susquehanna service they prepared the way for fast and adequate transportation between midtown New York and the territory in and around Paterson, and the service was ready when Paterson boomed as a war-plant center.

Although the two men were the prime movers in revamping the Susquehanna, Norton credits much of their success to enthusiastic support by the road's personnel, many of them veterans of years of service during the period when the Erie held sway. Heading these was A. L. Kline, who as general superintendent of the Erie's New York Division had had supervision over the NYS&W. He became general manager of the Susquehanna when it broke away from Erie control, and in his new capacity he was a helpful and experienced adviser to the two non-railroaders at the helm, as well as a willing lieutenant in putting their schemes into effect.

Kline resigned January 1, 1945, retiring after 45 years as a railroad man. He has been succeeded by Frank C. Kronauer, another Erie-Susquehanna veteran, who retains also the post of chief engineer. Kronauer was assistant chief engineer of the Erie in pre-Norton days.

At the outset the Susquehanna had two trustees, Kidde and Hudson J. Bordwell, who was designated operating trustee. Norton was called in to make a financial analysis because of his experience in business administration. When Bordwell died in November, 1937, the court continued Kidde as the lone trustee and he named Norton as executive officer, effective January 1, 1938.

Kidde died in February, 1943, before he could see all his plans for the Susquehanna realized. Norton, named trustee in his place and continuing the duties of executive officer without the title, has no intention of letting things slide. Already the railroad has constructed parking facilities at several of its busier commuting stations — again as a result of a questionnaire. Plans have been drawn for a new station at Vreeland Avenue, Paterson.

Automatic gates have been installed at three of the busier grade crossings, adjoining the East Paterson, Rochelle Park and Bogota stations. These lower themselves as an approaching train closes an electrical circuit. If a gate comes in contact with an obstruction, such as the top of a passing automobile, it rises again momentarily to allow the obstruction to remove itself. Each gate extends across only half the roadway, leaving room for a motorist who might otherwise be trapped to drive off safely. Flasher lights and bells add to the protection.

Early in their new-found railroad career Kidde and Norton discovered Oakland has a series of well patronized river beaches. But they are more than a mile from the Oakland station, at the least. So the Susquehanna erected a shelter as a tiny waiting room close to the beach area and scheduled it as West Oakland, a flag stop. The results made it evident that quite a few New Yorkers like to ride out for a swim at West Oakland.

The war created another extra-service activity for the Susquehanna, but it was short-lived. Normally passenger service does not extend west of Butler, 37 miles from Jersey City. But the tire and gasoline shortage influenced Norton and Kidde to inaugurate summer week-end service to Beaver Lake — once again after a questionnaire. Thus the owner of a lake bungalow was enabled to leave the family car with his wife and youngsters during the week and still get there Friday evening, returning to New York by an early morning train Monday. The lake train earned money in 1943 but merely broke even in 1944 and was not revived last summer. Gasoline is more available for motorists now.

Typifying the problems the present Susquehanna management inherited from the Erie, as distinguished from its program of modernization and new ideas, is the New York Central interchange facility at Edgewater.

Just north of the West Shore's extensive terminal yards on the Hudson river front at Weehawken is situated the O&W's coal pier in

Robert F. Collins

On this freight at Smiths Mills is one of the Russian Decapods, once Susquehanna's reliance for heavy freight but now replaced by Diesels. Type nickname comes because these engines were originally built for Russian war use in 1917.

Guttenberg. Slipping past this pier, on north through Woodcliff and into Edgewater, is a single track, serving an occasional industry and eventually connecting with the southern end of the Susquehanna yards. In 1907 the Erie granted the New York Central trackage rights for its River Division (the West Shore) into the yards. Norton and Kidde disaffirmed the contract, declaring the West Shore was receiving an unearned share of the tariffs because it did not move the traffic. They contended the Susquehanna should not have to do all the hauling at cost. The New York Central sued to set aside the disaffirmation, and the case is now before the United States Circuit Court of Appeals.

Norton estimates 30 per cent of the business going into Edgewater is West Shore traffic, and he would like to see the Susquehanna collect more than just the cost of handling it. About $200,000 annually, a worth-while chunk of

possible additional income for Susquehanna, is involved in this suit.

What of the future? Most important, in Norton's opinion, is the approaching completion of reorganization. The plan has been approved by the I. C. C., but there is still Federal Court. The court feels the New York Central suit should be settled first. And the court must consider the views of the only individual to file an objection to the reorganization plan, a woman who owns two bonds and who has opposed every modernization proposal submitted to the court by Kidde and Norton.

Briefly the I. C. C.-approved reorganization plan calls for issuance of stock in a new corporation, to be distributed to holders of junior bonds of the old Susquehanna. This new stock would be held by voting trustees for five years before being distributed, to establish a fair market price and prevent manipulation. There is no concentration of bond holdings, so the new stock would be spread widely.

The line, Norton points out, is earning enough now to pay fixed charges and it could pay dividends if it were not barred by the fact of receivership. Interest on the terminal bonds, which financed the Edgewater yards and the branch from Little Ferry, is paid up to date and the bonds are selling at par.

Progressive ideas and economies introduced by Norton and Kidde turned the Susquehanna's financial pages back 24 years to the days when the net income, after all charges except bond interest, used to exceed $1,000,000 a year. This they accomplished in 1943, when operating revenues reached $5,793,871 and net railway operating income reached $1,120,092, the first time it was over the million-dollar mark since 1919.

For 1929, before the effects of the Wall Street collapse were felt, operating revenues were $5,361,582 and net income before fixed charges was only $604,384. By 1936, the last year before reorganization began, these had dropped to $3,451,959 and $166,596. In 1938, before Norton and Kidde had succeeded in breaking away from the Erie, operating revenues had slumped to $2,957,895 and operating income to a mere $68,538. The climb from March 1, 1940, to the end of 1943 was rapid, and in 1944 the income before charges remained close to the million-dollar level for a second year.

In addition to the promise of early reorganization fulfillment, a bright spot in the Susquehanna's firmament exists at Edgewater. Seatrain, Inc., has acquired the old Colgate-Palmolive-Peet property and part of the Susquehanna's unused land, adjoining the railroad's coal pier. By the end of 1946 Seatrain expects to construct a new terminal to replace its Hoboken Terminal,

Theo. A. Gay, 166 Van Buren Ave., Teaneck, N. J.

which handled 780,000 tons of seagoing freight yearly before the war.

The former plant of the National Sugar Refining Company in Edgewater, now used by the navy, has been bought by the California-Hawaiian Sugar Company, which has plans for a modern river front plant there.

Meanwhile Norton will continue to apply new techniques to railroading. Right now he is busy revising plans in view of the war's end. Estimates that traffic on the streamliners would settle down to an average of 80,000 a month have been pushed up again to 100,000 by the figures for November and December, 1945. This Norton attributes to Manhattan's traffic congestion and parking headache; the passengers who got their cars out when gasoline rationing was lifted returned to the Susquehanna after a few tangles with the parking problem, which is severe even on the New Jersey side of the Hudson River.

That means more equipment. Norton and Kronauer are now examining plans for a new two-car unit of up-to-date design, embodying improvements that will be specified on the basis of operating experience to date. The road has enough Diesel locomotives at the moment, but more may be in the offing. If the Seatrain Terminal lives up to expectations, additional heavy equipment may have to be purchased to accommodate the increased traffic. Norton says he will wait and see.

These are the streamliners which earned national fame pulling Susquehanna passenger business out of the red. They are American Car & Foundry units with pancake oil engines under the floor and with hydraulic transmission. Engineer sits at right front giving passengers in left front seat a marvelous view ahead. Two-car train is former Miss Lou and Illini of Illinois Central. Two single cars, double-ended, were purchased new.

Upper, W. R. Hicks; lower, Theo. A. Gay.

Memoirs of Engine No. 38

This story, a fantasy, might be about any one of the old Eight-Wheelers or Moguls

BY JOHN PAGE

To look at me now you would never believe that many years ago hundreds of people traveled miles just to see me. But I was a proud and handsome little engine then, with my paint sleek and bright, my brasswork gleaming, and everything about me as neat and orderly as the loving attention of two men could make it.

No, you wouldn't believe I was ever anything except a dirty little switching engine. I spend my days among the neglected tracks that weave among and through the drab buildings of Jenkin's Pottery. Many an engine in my present circumstances would be happy indeed, for the work I do is not difficult and I have a great deal of leisure to rest on my rails and think.

That is the trouble — I think too much. I am like a fine lady who has fallen into inclement times in her waning years, and who spends those years recalling what once she was, the things she once did, and brooding over the contrast between that era and the present. It isn't good for me to brood, I know, but I can't help it.

Sometimes, but only rarely, knowing eyes see through my dirt, see past the odd and ugly appurtenances that have been added through the years to modernize me. Yes, the knowing see beyond these superficialities and realize how quaint I am. Then they come closer and inspect me eagerly, and once not long ago a man drew a sketch of me. I almost felt proud again.

But to go back to my beginning — I was built by the Messanee Iron Works in 1878 for the Fowlersville and Cambridge Railroad. When I was delivered to the Cambridge Terminal, Jeffrey Condon, the president of the railroad, examined me admiringly and ordered that I be cleaned and polished and decorated with bunting and flags for the initial run.

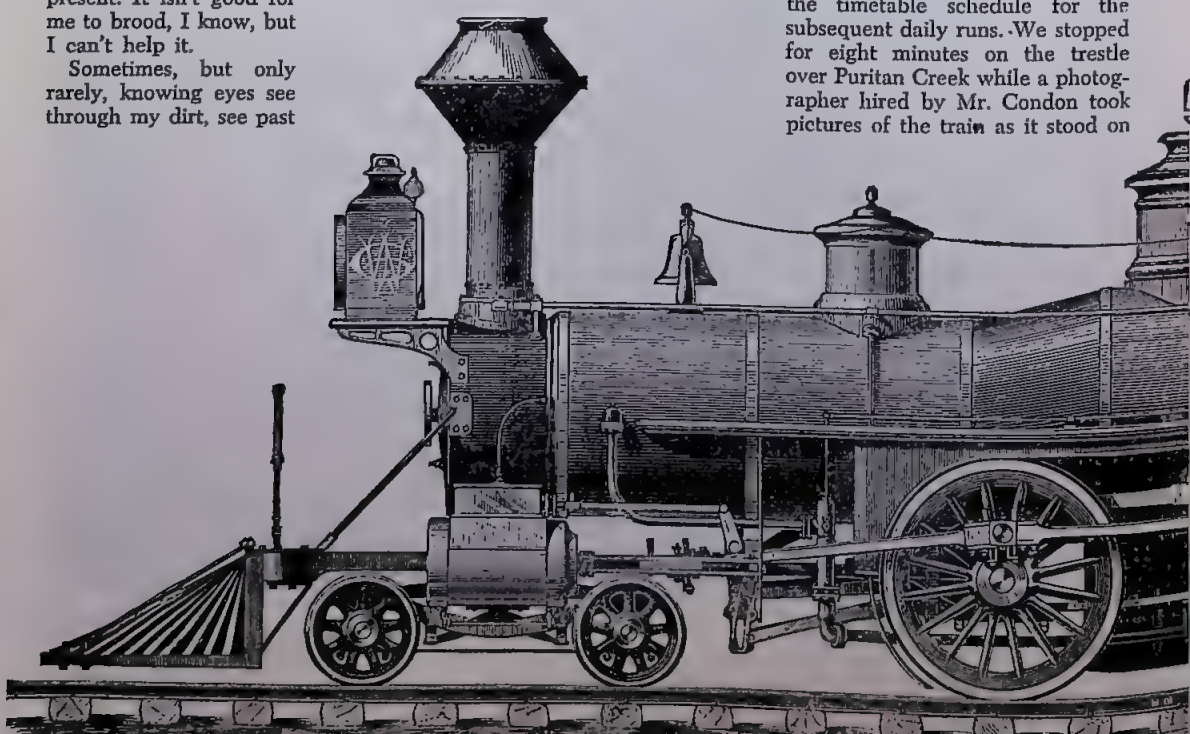
The next day I was coupled to four new coaches, all decorated with bunting, too, and painted to match me. Then Mr. Condon and a group of other railroad officials, newspapermen, and industrial and civic leaders and their ladies all got aboard the gaily-colored coaches and there was a short ceremony. Then we started for Fowlersville.

That was the proudest day of my life. All along the tracks there were gatherings of people who had heard that the railroad was getting a fine new train which was to be assigned to fast express service between Cambridge and Fowlersville. Many had come miles to see that first run. They were well rewarded for their trouble, too, for what a fine sight we were.

Most of the way my engineer, Dan Martin, kept me at a steady speed of 45 miles an hour — fast enough to keep the flags and streamers smartly rippling—yet not so fast that the majesty of the train would be lost to the onlookers in a kaleidoscopic flurry of dust and color. Every half mile or so, Dan would pull the whistle cord to herald our approach. Mr. Condon and his guests waved to the trackside spectators as we passed.

It was on this, my maiden run, that I became acquainted with Dan Martin, my engineer, and Joel Carney, my fireman. Two finer enginemen never lived, and I knew from the skillful way they handled me, and the pains they took to keep me clean, and oiled, and neat, that they loved fine engines. Accordingly, I gave them all I had during the time I was in their hands, and years later, when I was sold, they were as greatly grieved as I at the parting.

The run I made that day to Fowlersville took two hours and 12 minutes, 14 minutes longer than the timetable schedule for the subsequent daily runs. We stopped for eight minutes on the trestle over Puritan Creek while a photographer hired by Mr. Condon took pictures of the train as it stood on



the trestle outlined against a background of pine-forested hillside. Mr. Condon had copies made of this photograph and sent them to all his guests on that original run.

We resumed our journey and in about 12 minutes arrived at the outskirts of Fowlersville. Dan slowed me down to a speed of about 15 miles an hour, and with my whistle blasting and bell clanging we drifted gracefully to a stop at Fowlersville Terminal. A crowd awaited us there, and as we stopped they closed in around the train, cheering. Some went to the rear coach from where the mayor was to deliver an address of appreciation for the railroad's having instituted the new express service between his city and Cambridge. Another large group gathered around me and watched Dan as he oiled me, although I didn't need it, and Joel, as he wiped my brass, although it couldn't have been made more lustrous.

Soon the mayor had finished his address, and the crowd that had been listening to him came forward. So did Mr. Condon, who climbed up onto my pilot beam, jovially pulled several of his guests up after him, and there they posed for photographers again.

Then Dan backed us onto a siding where we were on exhibition until nightfall, with ushers escorting people through the coaches pointing out their many improvements over older types, as well as the beauty of their appointments. Dan and Joel served as guides for the many who wanted to see me, too, and I confess I blushed a bit at their glowing accounts of my fleetness, power, and mechanical perfection.

Thus my most wonderful day came to a close. I was uncoupled from the coaches and run into the enginehouse where workmen removed the flags and bunting and streamers, and readied me for the next morning's workaday run.

But there were other proud occasions; as when I was assigned to draw The Honorable Jacob F. Leeton's funeral train. But then the occasion was solemn, the bunting black, my bell and whistle silent, my speed restricted to a crawl. Much more to my fancy were the raucous political convention trains, and the special runs to Cambridge for the Fowlersville Community Outings at Lido Park.

Most thrilling of all were the rare, dramatic, emergency runs when I was hastily coupled to a solitary coach to rush officials, doctors, and first-aid supplies to the scene of a wreck somewhere along the line. On these urgent runs, with Dan's understanding hand at my throttle, I would race like the wind, and the few persons who rode behind me on these missions said they never would forget the ride. The credit should really go to Dan, for he knew every curve, grade, and switch, and just how fast he could safely run me.

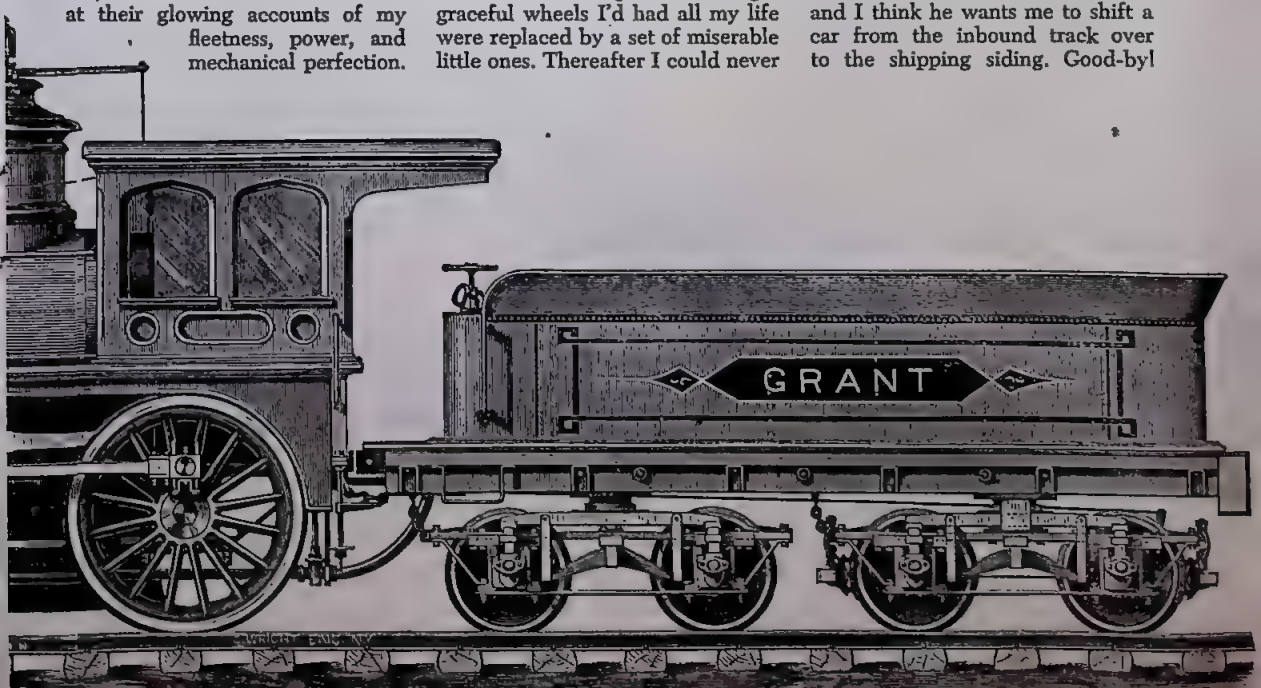
My happy years ended when the Fowlersville and Cambridge sold me. Life became a shallow affair. For years I worked hard — harder than I ever had before, or have since — at a logging camp drawing log trains. To enable me to do this kind of work, my drive wheels had to be changed. The high, graceful wheels I'd had all my life were replaced by a set of miserable little ones. Thereafter I could never run — only crawl. How shocked I was when the little wheels were installed, for I knew it meant I was never again to run on the main line. I resigned myself to being a switchyard engine.

Later, I was sold to a cement plant, and after that to a cannery. The cannery sold me, after many years of faithful service, to my present owners.

As I grew older it became necessary to send me to shops more and more frequently for repairs. They put a new type of brake on me years ago — air brakes. How cruelly effective they are! When Dan ran me he applied my brakes gently, much as a rider reins in a beloved horse. But air brakes — ugh — they sometimes seize my wheels so violently that I cry out in pain. Oh, well — why complain?

Over 60 years have passed since my first happy days on the Fowlersville and Cambridge, and there is scarcely a part left in me that hasn't been worn out and replaced at least twice during those years. Mr. Condon, Dan, Joel, and even the Fowlersville and Cambridge, as such, all have passed on. Really, I'm glad, in a way, that they're not here to see me now with my absurd little wheels, the leaky pipes spilling water and steam constantly, the queer little footboards in front that years ago replaced the long trim pilot that was one of my nicest features. Yes, I'm glad Mr. Condon, and Dan, and Joel never saw me as I am now. It would have made them very sad.

Well, I'll have to leave you now. My engineer has climbed aboard, and I think he wants me to shift a car from the inbound track over to the shipping siding. Good-by!



R. H. Kindig collection.

Remember Snow?

These striking pictures were made 22 years ago last March at the end of the Ellsworth branch of the Frisco Lines. It is at Ellsworth, Kans., that the Frisco interchanges with Union Pacific.

Canadian National.

Mount Robson on the CNR

America's most northern transcontinental route is the Canadian National. It was built as the Grand Trunk Pacific some 35 years ago, reaching the Pacific at Prince Rupert. The route has the lowest summit of all United States or Canadian crossings at an elevation of 3720 feet in Yellowhead Pass, a few miles east of Mount Robson. More significant is the favorable ruling grade of 0.4 per cent that is unbroken except for a 20 mile helper grade, itself only one per cent, just west of Red Pass Junction (near picture). Trains 1 and 3 westward leave the original main at Red Pass Junction for the 500-mile treck to Vancouver. These are both known as the Continental Limited; No. 1 starts from Montreal and No. 3 from Toronto. They run appproximately an hour apart most of the way and pass the 13,000 foot Mount Robson in mid-afternoon. A Tuesday and Friday mixed passes here in the morning and returns the next afternoon.

We've come a long way since the "Highball"

The first railway signals ever to be established on an American railroad were installed in the early 1830's on the old New Castle and Frenchtown Railroad, long a part of the Pennsylvania Railroad System.

Until then, a locomotive engineer had only a time card to guide him—there were no signals, no telegraph, no communication between stations, no way to transmit orders to a train.

But the spirit of railroad progress soon corrected that!

At stations along the line, poles were erected with crossbars projecting over the track—to which were attached pulleys and ropes.

As a train approached in the distance, the station agent ran up a big ball—much as you would hoist a flag.

White ball run clear to the crossbar meant "clear track." Black ball, run half-way up, meant "stop!"

Thus was born a phrase famous in railroading even in this day . . . "highball"—or clear track ahead.

In rapid succession over the years followed a host of improvements in the science of railway signaling—many of them pioneered by the Pennsylvania Railroad. The semaphore . . . the block signal system, inaugurated first on the Pennsylvania Railroad in 1863 . . . interlocking switches . . . automatic block signals . . . centralized train control . . . position lights . . . cab signals . . . and many others, the latest being the train telephone.

Now what have these forward steps meant to the American people? *The safest travel developed by man!*

Today, as the Pennsylvania Railroad begins a second century of transportation progress, its research and engineering staffs strive to adapt the latest discoveries in electronics and other fields to its signal and communications system, and thereby give passengers and shippers even better, safer service.

THE TRAIN TELEPHONE. Latest of Pennsylvania Railroad achievements, the train telephone enables an engineer to talk to other trains, wayside stations, freight cabooses—all while his train is pushing on.

CAB SIGNALS automatically reproduce the wayside signals—a great aid to the engineer on stormy, foggy nights.

AUTOMATIC POSITION LIGHT SIGNALS on crosstrack bridges tell Pennsylvania Railroad engineers the state of every track.

PENNSYLVANIA RAILROAD

1846 *1946*

ONE HUNDRED YEARS OF TRANSPORTATION PROGRESS

Denver Streamliner

The C&NW-UP City of Denver glides 1045 miles in 17 hours to lift you to the mile-high capital of the Rockies

BY ROY G. CLARK

Tonight we're going a mile up in the air; but we won't use a plane or a balloon. Instead, we'll board an ultra modern rail streamliner, enjoy a fine dinner, have a restful night's sleep and make the trip so effortlessly that we'll never realize we're going up.

We're leaving Chicago for Denver on the streamliner *City of Denver,* operated over the historic pioneer line of the Chicago & North Western and the Union Pacific railroads.

The big North Western Station in Chicago is a scene of feverish activity as we go up the steps to the tracks. It's a little after five o'clock in the afternoon and the rush of homeward-bound commuters is at flood tide. These fellows operate on split-second schedules between their offices and the trains and any tourist who gets in their way is liable to get elbowed a bit.

More trains operate in and out of the North Western's big station than from any other United States terminal serving only one railroad, with the possible exception of the B&M's North Station at Boston and the Pennsylvania's Philadelphia terminals. Between 4:45 and 5:30 p.m. these North Western trains destined for pretty suburban towns on the Galena, Milwaukee and Wisconsin divisions of the road, leave on practically a street car schedule. Quite often two or even three trains pull out simultaneously.

We wonder how our *City of Denver* found room to get in, but there she stands on track 5, stretching out 14 car lengths, her yellow cars fresh as a daisy after the daily bath in the novel car washing tunnel at the 40th Avenue coach yards. One of the earlier of the Union Pacific-Chicago & North Western streamliners, the *City* is still sleek and shining, the result of careful and continuous grooming in the maintenance lines. That this care has been well worth while is attested by the fact that all equipment, excepting the motive power, was kept in continuous service for eight years before being shopped. In this time they built up a total of more than 64 million car miles.

Today our motive power is No. CD-06 A-B-C, a triple assembly of Diesel-electrics with 3600 horsepower. And they're mighty spirited horses, too, as we'll learn a bit later when the *City* starts doing its stuff. The consist is made up of an auxiliary baggage car, a baggage-mail, two coaches, the diner, a dormitory-club, four Pullmans and a room-observation car. We look for the famous car with the Frontier Shack bar only to learn that it has been remodeled into a conventional dormitory-club car because of war demands. We are rather sorry, as it always seemed to us that the Frontier car, with its lusty western atmosphere, was very much in character with a Denver-bound train.

We get under way at 5:45, swinging to the left along the famous "North Western bend" that has been pictured hundreds of times. We hear the smooth click of the wheels over the frogs where the multi-tracked Milwaukee and Wisconsin divisions fork off to the right and, in 39 seconds, we're on the straightaway.

We note that there are four main traffic tracks on the elevated roadbed, plus two tracks that are used for backup movements between the station and the coach yards, together with a secondary freight running track on each side of the other tracks, from which industrial spurs swing off every few hundred feet. When we remember that this is only one division of the three entering Chicago, we realize the magnitude of the North Western's Chicago operations.

We slip across the Milwaukee Road's main line, speed past the 40th Avenue shops, swing around the tremendous coach yards and continue out through Austin and Oak Park. The tracks are all elevated above all the streets to Bellwood, over 12 miles, and we're really making time. The country opens out and soon we pass around sprawling Proviso Yard, one of the biggest in the world. Proviso is equipped with every device to make up and break up trains expeditiously. The North Western has built a double-tracked belt line from Proviso directly

North Western Bend, City of Denver approaching Chicago. Chicago & North Western.

northward to connect with its Wisconsin and Milwaukee divisions, thus diverting the freight traffic on those divisions from Chicago tracks.

Our multi-tracks have now narrowed down to three and we continue out through the pretty Du Page county suburbs. In an unbelievably short time we're crossing the Fox River at Geneva, 35 miles out, the limit of the Chicago suburban zone. From here on we'll be in genuine Illinois corn country.

Dinner in the diner now, and one that hits the spot with us because our fried chicken is unjointed, home style, and we're really able to find some meat on it. The country gravy and corn fritters that go with it bring back memories of Sundays on grandma's farm many years ago. The entire meal service is gracious and unhurried, and the whole atmosphere is so different from the many commonplace meals during the war, that even the appearance of a finger bowl, as extinct as a dinosaur these many years, wouldn't surprise us.

We're not the only ones enjoying the meal. At an adjoining table sit four sun-tanned men, who have brought their big range hats into the diner and have had considerable difficulty tucking them under their seats. Obviously western ranchers, they probably have ridden with a stock shipment into Chicago and are now going home. Three of them relish the home style chicken so much that they ask for some second helpings and get them, whether they are with the compliments of the chef or not we do not know.

We make our first stop at Dixon, at 7:16, just as we finish dinner, and we note that we've covered the first 98 miles at an average speed of 64.6 m. p. h. We go back to the observation car to listen to "Information Please" and to study our timetables a bit. We recall that the North Western, in 1885, was the first line to reach a dock on the Mississippi and that the original strap-iron rails were laid seven years before by the Chicago & Galena Union, which extended westward from Chicago to Turner Junction (now West Chicago) a distance of 30

Chicago & North Western.

Rotating brushes and jets of water wash the City of Denver as it noses through in the Chicago shops. Left to right in the small picture, City of San Francisco, City of Portland, City of Denver, and the 400 on shop pits. Opposite page, City of Denver approaching Geneva, Ill., on left-hand track.

miles. Later on, when the line was double-tracked, left-hand operation was put into effect so the stations on the north side of the tracks would be more convenient for passengers bound inward to Chicago. Left-hand operation is still maintained on the North Western.

Every schoolboy, of course, knows the saga of the Union Pacific. Even though he may have passed it up rather quickly in his school books, it became a living thing for him in the movie epic, "Union Pacific." Union Pacific, together with the Central Pacific, constituted the life line that fed California and the Pacific Coast in those early post Civil War days, and without it we might have lost California.

Today the joint C&NW-UP line is the epitome of superb railroading. The heavily built double tracks are augmented with additional high speed running tracks at intervals and every measure of modern protection — automatic block signals, automatic train stop, and cab signal indications — is utilized to the fullest extent. It is a veritable super highway of steel.

But, right now, we're pulling into Ames, Ia., and it's 10:58, about time to go to bed. We take time enough to ascertain that we've covered the 327 miles from Chicago at an average speed of 62.6 m. p. h., very consistent running. While we're asleep the Union Pacific crew will take over at Council Bluffs, Ia., and we'll cross the Missouri River to Omaha.

Leaving Omaha, we will pass the eastbound *City of Denver* while running over what is known as the Lane Cutoff, a project completed in 1908 through some very rough and broken country that was considered impassable for a railroad when the Union Pacific was first laid out. The original line swung to the south.

The Lane Cutoff points boldly west through this rolling country, an engineering achievement that wasn't accomplished without considerable trouble. As an example, at one point the line crosses the wide valleys of Little and Big Papillion creeks, with unusually unstable alluvial soil in the bottoms of the valleys. Two temporary trestles, the first 96 feet high and 3100 feet long, and the second 65 feet high and almost a mile long, were built. Then began the job of filling earth around these trestles. Because of the instability of the valley bottoms, the earth fill pushed the original soil upward from the foot of the slopes. This was finally overcome by establishing side berm fills against the sides of the main embankment, much like a wooden form is built before pouring concrete — and this alluvial soil had all the contrariness of concrete.

Lane Cutoff has lighter grades, less than half the curvature and is nine miles shorter than the original line. This is a vivid illustration of what the railroads have learned in 75 years.

All night long, while we're asleep, the *City* will sustain a remarkable degree of consistent speed, never dropping below an average of 60 m. p. h. and never going above an average of 72 m. p. h., although in the nine mile stretch between Elm Creek and Overton, in central Nebraska, we will speed up to 87 m. p. h., fastest spurt on the run. Such general smoothness makes for exceptionally pleasant travel and, even if we were awake, we wouldn't realize how our streamliner is eating up the miles. At

no point on the entire trip does the average drop below 60 m. p. h. with the exception of some slower running as the train approaches Denver.

Early next morning we wake up and lie in our berth looking out at the flying countryside. Surprisingly, the terrain is quite flat and we can scarcely realize that we're over 3000 feet above sea level and climbing all the time. Every few miles we swish past a little hamlet, with its single street of frame buildings facing the railroad and its inevitable cattle loading pen on a siding. We're in the great plains country and the buildings are scoured and stained with the sand and dust blown by the winds.

Alongside the right of way U. S. highway No. 30 stretches on interminably from horizon to horizon, with a lonely looking filling station or hot dog stand here and there. We can imagine that auto tourists hurry over this section of highway, because each new mile looks exactly like the one just covered. One might shut his eyes for half an hour, here on our streamliner, and never know that he had moved when he opened them again. Highway No. 30 closely parallels the Union Pacific for over 300 miles, taking advantage of the original railroad survey made through Nebraska more than 75 years previously. Both railroad and highway follow the easy valley of the North Platte River.

Shortly after 6 a. m. we swing off the double-tracked California bound main line, at Julesburg, to the Denver Cutoff. We're on single track now, but on genuine heavy-duty track. Here is the same washed rock ballast, the same heavy steel and the same automatic block signals. The *City* continues at the same speed.

Near Fort Morgan, a hundred miles from Denver, we round an easy curve and far in the west we see what appears to be a dense bank of white clouds. Then we realize that these are not clouds. These are the Rockies! An awesome sight they are, presenting a seemingly impenetrable palisade reaching to the sky. We can imagine how the pioneers on the Oregon and California trail felt when they first saw that towering white mass before them, still many days away by covered wagon.

At La Salle we join the line down from Cheyenne, a busy piece of railroad and the first line to reach Denver back in 1870, carrying Denver's traffic to the Pacific Coast, and originally used by Chicago-Denver trains before the cutoff line was built. We reduce our speed as we pass through Brighton, work our way into town at moderate rate and, at exactly 9:45 a. m., slip into the Denver Union Station.

We have covered the 1045 miles from Chicago in 17 hours, at an average speed of 61.5 m. p. h. The *City* has lifted us from an altitude of 591 feet at Chicago to exactly 5183 feet at Denver.

Mile-high Denver! Once the hub of the romantic narrow gauges, with practically every track in the terminal section laid with three rails, to take care of both standard and narrow gauge equipment. But that's a story in itself, not to be gone into here. The slim gauges are gone, supplanted by today's *Zephyrs, Rockets, Eagles,*

Henry J. McCord, 112 N. Washington St., Batavia, Ill.

R. H. Kindig, 3831 Perry St., Denver, Colo.

At sunset time the City of Denver approaches Sterling, Colo., at about 70 m. p. h., on its eastward run. The westbound train passes by the same point in early morning just about 12 hours later. Both ways there are only three or four hours of daylight running across the prairies and fields of the midwest. Opposite page, No. 1 of the Denver & Salt Lake entering Moffat Tunnel while railfans look on. Round trip to tunnel is popular.

and *City* streamliners, with others soon to come. The traveler from anywhere can journey to modern Denver in luxurious comfort over the roads serving it: Chicago, Burlington & Quincy; Denver & Salt Lake; Missouri Pacific; Denver & Rio Grande Western; Chicago, Rock Island & Pacific; Atcheson, Topeka & Santa Fe; Union Pacific, and Colorado & Southern. All, with the exception of D&SL passengers, arrive at a genuine Union Station, a convenience not to be enjoyed in many major cities.

Denver Union Station has been the hub of the city's life for many years. Back in the 1880's such lusty characters as Colonel Bob Ingersoll, George Pullman, Colonel Buffalo Bill Cody, Wilson Mizner and Silver Dollar Tabor used to gather here to meet and speed friends.

In those free and easy days the station entrance was an excellent spot to bunco the tourists with "now you see it, now you don't" games. It was here that Soapy Smith made a fortune wrapping $50 bills in certain packages of soap before the tourists' very eyes, then selling them the soap for a dollar the bar. His confederates always got the bars with the bills in them, of course. If the congestion became too great the police would obligingly assist in lining up the tourists so that every one of them would get a chance to buy a bar.

Union Pacific.

It was at this same entrance that Tammen and Bonfils, who made a great fortune publishing the *Denver Post*, sold railroad passes at cut rates to meet the first pay roll on their strident newspaper. And it was here, too, that it is said Lou Blonger met a bedazzled tourist and sold him the gold on the Capitol Building dome.

And from the Union Station, each year, departed the Tammen and Bonfils special via Union Pacific to Cheyenne's Frontier Day, the big event of the west. Dance floors were built into baggage cars, another car was set up with a bar for soft drinks, there were orchestras, free meals — and 40 or 50 pretty girls from the Denver show houses to entertain the men. Wives would definitely have been persona non grata on this safari. What reminiscent chuckling must take place when the shades of all these characters meet at the station entrance of nights to talk over old times!

It was a lusty, raffish period, those early Denver days, punctuated with robust characters who have left their marks on the town to this day. They have bequeathed Denver a heritage of virility and electric action that isn't matched by any other American city.

But let's stop reminiscing, because here are Chick Lambotte and Ross Grenard, two enthusiastic Denver boosters, waiting at the station entrance with a big shiny Packard. "Take a deep breath," Chick says, as we shake hands.

"It will be the first time you've really used all your lungs since you were last out here." We try a tentative big one and have to admit that the usual wheeze seems to have disappeared.

We check in at the Brown Palace Hotel, where the atmosphere of the 1880's is exquisitely blended with ultra modern luxury and where smart Denver gathers.

"Polish up your glasses," Chick says when we come out on the street again. "We're going to take you on a ride where there's really something to see." We spin out the West Colfax highway and are soon climbing up to Lookout Mountain, where Colonel Buffalo Bill's grave is located, high among the craigs he loved.

Ross tells us that when the colonel was buried here, six of his old sweethearts sat on campstools in the rain at his graveside. The casket cover was open and the rain soon obscured the glass over his handsome face. Sensing the great indignity of the situation, one of his old flames got up and, with ineffable dignity, held her parasol over the casket for the rest of the service. "That's the kind of guy the colonel was," Ross adds and we all lapse into an envious silence as we contemplate the prowess of the robust colonel.

Now we're on the ascent to Mount Evans, 14,260 feet, on the highest automobile road in the world. Each new turn presents a panoramic vista so tremendous in scope that it almost seems unreal. In a little while we're beyond the timberline and the clouds are drifting along below us. We have a sort of eerie feeling, as though we might be riding through the stratosphere on a dream highway to Mars.

We attain the summit, with its rock hewn observation house. Neighboring peaks (not so neighboring, actually, because many of them are miles away) don't seem so formidable now. An hour ago they loomed far above us, but now we're just as high as they are and, someway, we get a sort of superiority complex about it. Man is an earth-bound animal and it pleases him to get up in the air.

Down to Echo Lake, mirroring Mount Evans, and then over the continental divide at Berthoud Pass. A bit farther on and we remember that we're in the vicinity of the famous Moffat Tunnel, and that the *Exposition Flyer* will be coming through early this afternoon. We eat lunch at a roadside place and then Chick swings the Packard into a narrow and tortuous side road, where we have to make a switchback to negotiate some of the turns, but, in a few miles, we come out on a high bluff that overlooks the D&SL tracks far below us, with a wonderful view of the East Portal tunnel entrance.

Soon we catch the sound of engine exhausts and the *Flyer* swings around a curve into sight, her two Mountain type Rio Grande locomotives blasting away with the reverse down in the

Joseph Schick, Keenesburg, Colo.

corner as they climb the escarpment leading to the tunnel entrance. The exhaust reverberates from one canyon wall to the other and then seems to echo up to us again. The long train trails behind like a lithe snake, our great height belying the tremendous efforts the two engines are putting forth, as the cars seem to slip along so smoothly.

Fascinated, we see the engines enter the tunnel and their roar is suddenly muffled. Great clouds of smoke and steam spray out of the entrance as the long train slowly snakes out of sight.

We ride back to U. S. highway 40 and pass Grand Lake, highest yacht anchorage in the United States. Then over Trail Ridge Road, four miles of which are over 12,000 feet high and covered with perpetual snow. After that, through incredibly beautiful Rocky Mountain Park to the town of Estes, headquarters for dozens of summer camps. We'd like to stay here for a while, but Chick says it will be dark when we get back to Denver, even if we hurry.

As we run along the last bench north of town the sun has set and the twinkling lights down in the city seem mighty attractive after our long trip. We've crammed more scenery, more ride thrill and more awesome vistas into one day than is possible almost anywhere else.

"Tomorrow," says Chick as he drops us at the hotel, "we'll get an early start and see more

Above, every visitor should see the view of the mountains from the Colorado State Capitol building. The City and County Building is in the foreground. Below, Red Rocks amphitheater and Echo Lake are an hour or so away.

Both photos by O. Roach, 1534 Court Place, Denver 2, Colo.

O. Roach.

things. Today was just a preview. We'll see the natural amphitheater at the Garden of the Red Rocks and then we'll get another view of Denver from D&F's Tower. After that, we want you to see our Civic Center, with the Capitol Building, the U. S. Mint and the municipal buildings all grouped in 10 square blocks of park. Then—."

"We must go to the Central City Opera House," Ross breaks in. "It goes back to the days of U. S. Grant and it's still used every summer for outdoor operas. And you'll want to see the antique furniture in the Teller House there, too. After that—."

"Before any of that," we firmly break in. "we're going to bed and get a rest. We want to see everything you've got, if we can hold out, but we're effete easterners, remember, and we have to rest once in awhile. Shades of Buffalo Bill and Tammen and Bonfils and the rest of your hardy breed! Don't you fellows ever rest?"

"All right, tenderfoot," Chick replies. "Rest your little tootsies and we'll start again tomorrow. You ain't seen anything yet."

Railroad Interest in the Denver Area

In the city: Union Station. Best hours are from 7 to 9:45 a. m. when streamliners of all railroads are represented among 23 arrivals and departures. D&RGW Burnham shops may be seen from the Eighth Avenue viaduct.

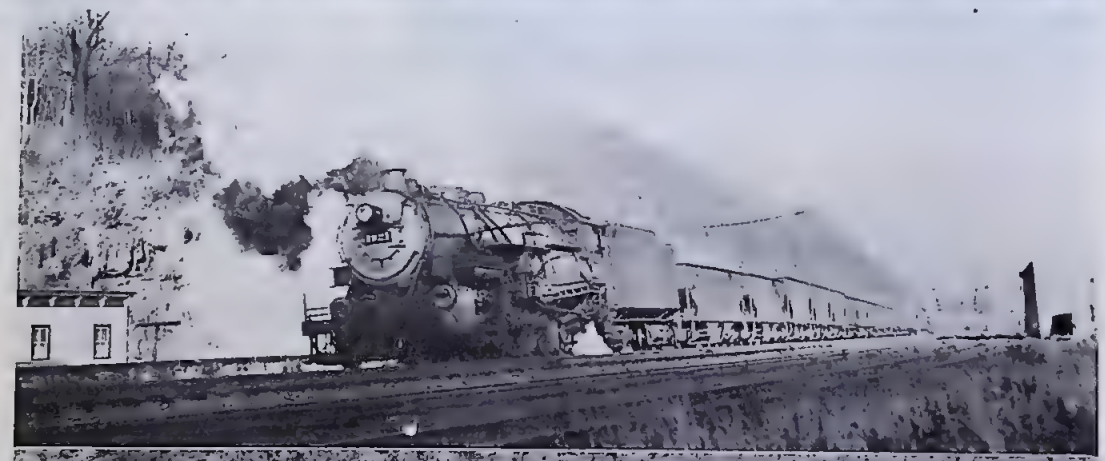
One day railroad trips: Lv. 9:50 a. m., D&SL station, ride to foot of mountains, along the escarpment, then into beautiful canyons to East Portal, Moffat Tunnel, 11:57. Detrain or continue through tunnel to Winter Park 12:12. Return to Denver from Winter Park at 12:38 or from East Portal 12:54. Arr. Denver 3 p. m.

To the Royal Gorge on D&RGW's *Scenic Limited.* Lv. Denver 8 a. m. Arr. Royal Gorge 12:45. Take cable railway to crest and back. Lv. Royal Gorge 3:49. Arr. Denver 8:45.

Interurban: Narrow gauge and standard gauge to Golden, fine trip. Frequent service.

If you are driving: You can spend weeks tracking down railroad interest in the area. Plan your trips to include: Boulder, Ward, East Portal, Central City (old C&S locomotive spotted here and another at Idaho Springs near by), Georgetown, Silver Plume (site of famous loop), South Platte Canyon, Como.

In any case you will find TRAINS map of Colorado railroads invaluable in making your visit more interesting. It shows all railroads and has historic notes about them as well. $1 postpaid.



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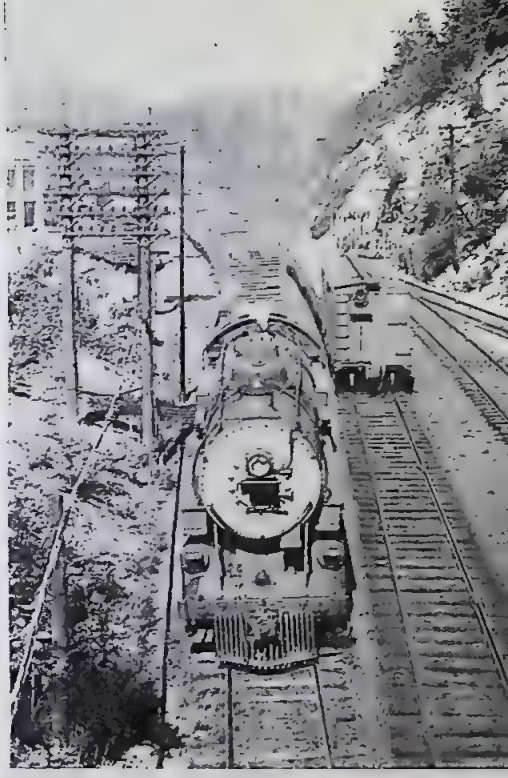


On the Reading

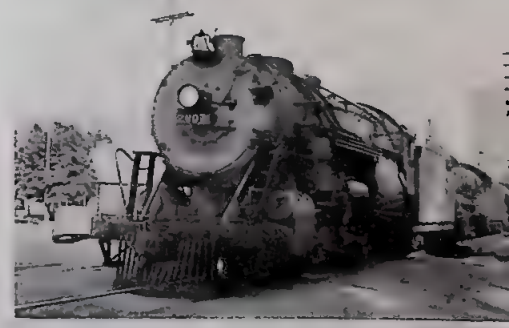
A TRAINS PHOTO STORY BY NORMAN H. COOPER

Pottsville is in the heart of a busy area for the Reading. A variety of motive power is always at work. To start off the day, one can watch the 7:30 for Philadelphia, No. 92, shown above not far out of the station. Then at the same spot only a few minutes later comes a freight rolling out of the yards on its way eastward (see center of opposite page).

Mother Hubbard, or cab-in-center locomotives, pop by along with Consolidations and Decapods and plenty of hopper cars. The locomotive at top of opposite page is cut in front of the caboose as a pusher on a coal train moving from the Cressona yards to the St. Clair yards. The aged Consolidation at bottom of the opposite page is pulling a local freight on the Mine Hill branch in western Pottsville. Photo was taken near the Gordon Nagle trail.

After lunch is a good time to visit the Pottsville station. At 12:30 Reading No. 5 comes in from Philadelphia and at 1 o'clock No. 8 leaves for Philadelphia. The photo below shows it passing through Schuylkill Haven, next stop and 8 minutes down the line. On rare occasion the streamlined Crusader engine turns up on No. 8, but usually the power is an ordinary Pacific.

Now we look around for the local freight, always an interesting operation. We find it (upper right) a couple of miles out of the station along the main line with some of its cars standing on the main track while the engine backs down toward a private siding. Then over toward the St. Clair yards at Port Carbon we find the 1906 pushing a heavy freight out southbound, and little later the 2007 and two other engines all tied together (right) deadheading toward Tamaqua. In between these illustrated selections the trains and the light locomotives come and go. This is only a sample of railroading on the Reading in Pottsville.



Hopper Cars

Once used mainly for coal, self-emptying cars also handle grain, chemicals and vegetables

BY STEPHEN BOGART

Tough guys on any man's railroad, with real ability to stand up and take punishment, are the hopper cars. The very nature of their contents is such that every act of loading and unloading is one of violence, a violence which transforms these cars into noisy, ground-shaking flat-wheelers with battered sides and chipped paint.

The "coal car" actually outdates the locomotive by about three centuries, for a block drawing generally accepted as the first railroad picture ever made portrays a crude, gondola-like car used in German mines in the year 1519. Just how this evolved into the B&O pot-bellied coal car shown in early scenes of American railroading is unknown; a more logical step would seem to be to the present-day gondola and, ultimately, the hopper car. At any rate, coal cars were well known on American railroads over a century ago for many of the roads were built principally to haul coal and to this day depend on the black diamonds for more than 20 per cent of their revenue and use 22 per cent of the country's coal for their primary source of power.

In spite of the fact that "coal cars" are used to haul many bulk commodities such as sand and gravel for our buildings, cinders and ashes for roadbeds and embankments and ore to be refined into the metals which have made American products the foremost in the world in quantity and quality, the public still thinks of them only as the cars which lug fuel for our ships and railroads, our factories and power stations and our homes and stores. "Coal cars" they will remain forever. Technically, however, these cars are known as "self-clearing hopper cars," the self-clearing feature meaning the sloping floor which allows the contents to run out as soon as the hoppers are opened. True, a few hopper cars have been built with level floors, necessitating hand shovel work to completely empty them, but by far the large majority are the twin-hoppered 34-foot shorties seen and heard in every passing freight. Latest in the hopper family is the covered cement car, distinguished by the loading hatches in the roof, usually painted or soon colored a dusty gray plainly indicating its use. These cars were widely used in transporting cement for defense installations and often five or six of them would be spotted at a construction site everyday.

Outside of some 700 cars owned by the Westmoreland Coal Company, the 2700 familiar Berwind-White Coal Mining Company cars and about 700 rarely-seen cars listed under the ownership of the Ford Motor Company, the railroads own the hopper cars. The Reading alone has some 16,000 (more than half its freight rolling stock), the C&O owns over 43,000, the Virginian some 7800, the N&W about 32,000 and the Pennsy — well, you get the idea. Summer and winter, rain or shine, these cars take an all-around beating and come back for more.

Hopper cars are described as "fifties" or "seventies," meaning their capacity in short tons (2000 lbs.). However, railroad freight is usually based on their net weight in *long* tons (2240 lbs.) while, to make it more confusing, the Federal tax (3 per cent of the freight on most shipments) is figured at four cents a *short* ton. If you'll look closely, you'll probably find this tax hung on your coal bill somewhere near the bottom.

The average hopper car starts its day with the shock of some 50 tons of coal being dumped into it from an overhead chute, follows through with the usual kicking around handed freight cars by belligerent switch engines, including a trip over a track scale, and finally winds up with a Virginian juice hog, a Reading Consolidation or the heavy freight power of one of the other roads playing tug of war with its couplers. Even if nothing worse happens during the trip, the car is subjected to the extremely corrosive action of wet coal dust on its steel.

Although various enamels have been developed to successfully resist this corrosion they will not withstand the abrasive action of the coal cascading into the cars and sliding out the hoppers, and constant repainting is needed.

For years the railroads serving harborside points were plagued with the necessity for opening the hoppers of cars individually when dumping coal into waiting barges. This was time consuming and uneconomical all around, and tied up switching equipment. Now, as any wrecking boss will tell you, the quickest way to empty a hopper car is to turn it upside down, and finally a car-dumping machine was developed to perform just that stunt.

The car dumper looks like a short section of roller coaster, with a skeleton-work tower rising from the center and long, spidery dog-leg chutes reaching out over the water. In operation, cars are pushed up the incline one at a time by a cable car or "mule." On the operating deck a one-unit car retarder stops the car until the powerful clamps take hold, then deck and car are hoisted high overhead and turned upside down. The coal clatters down the chutes, into the waiting barges, and almost before it has stopped running, the car is right-side up again and the clamps released. Gravity then sends the empty down the other side of the dumper, retarders or a kickback slow it momentarily, and it is switched to a yard track.

Some units handle cars at the rate of 40 an hour, with one car running off the dumper, a second being dumped and a third being pushed up the incline all at the same time. By means of the movable dog-leg chutes attached to the dumper, loads dropped into the barges can be trimmed or leveled and distributed evenly, so there is no danger of the vessel capsizing. This was formerly a separate operation regardless of whether hand labor or power equipment was used.

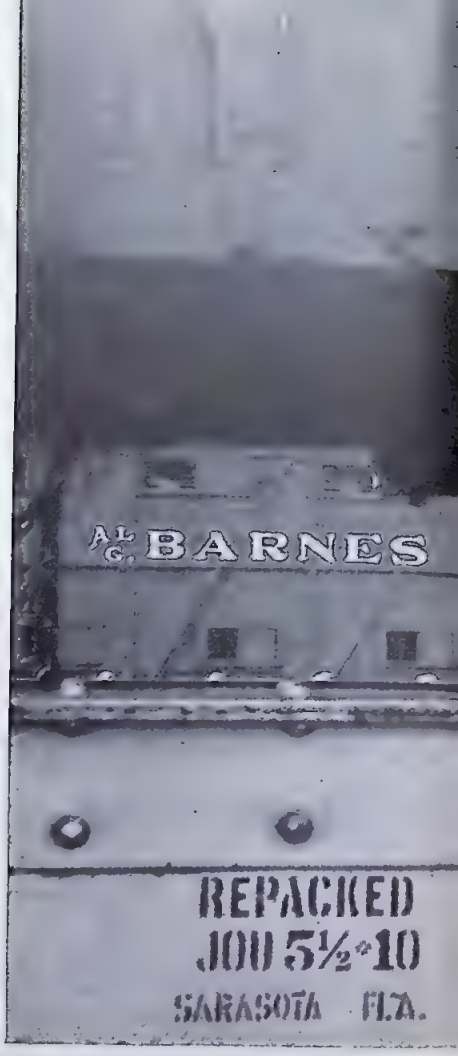
Less spectacular but more common than the car dumper is the unloading method used in the neighborhood coal yard or in nine-tenths of the other places at which hopper cars are unloaded. This merely consists of applying varying degrees of strength and cussing to the end of a long wrench which fits over the two-inch square MCB spindle operating the hoppers. Theoretically, and when conditions are perfect, these hoppers open easily enough but frequently they become jammed or frozen, which means considerable time is lost getting them to perform their duty.

During the winter months the contents of the cars may become solidly frozen and special facilities have been installed at coal-handling points to combat this nuisance. Some roads have long sheds equipped with steam heaters which rapidly thaw out the cars while others (notably the Reading) insert six or eight steam lances, long pieces of perforated pipe filled with live steam, down into the load until it thaws sufficiently to permit dumping. The small coal dealers, lacking these conveniences, may thaw their cars with a blowtorch or small fire under the hoppers (regardless of fire hazard) or by having strong-arm men pound the sides with heavy sledges until the coal breaks loose. As with tank cars, many railroad men claim to be able to tell how full a car is by listening to the sound of this pounding.

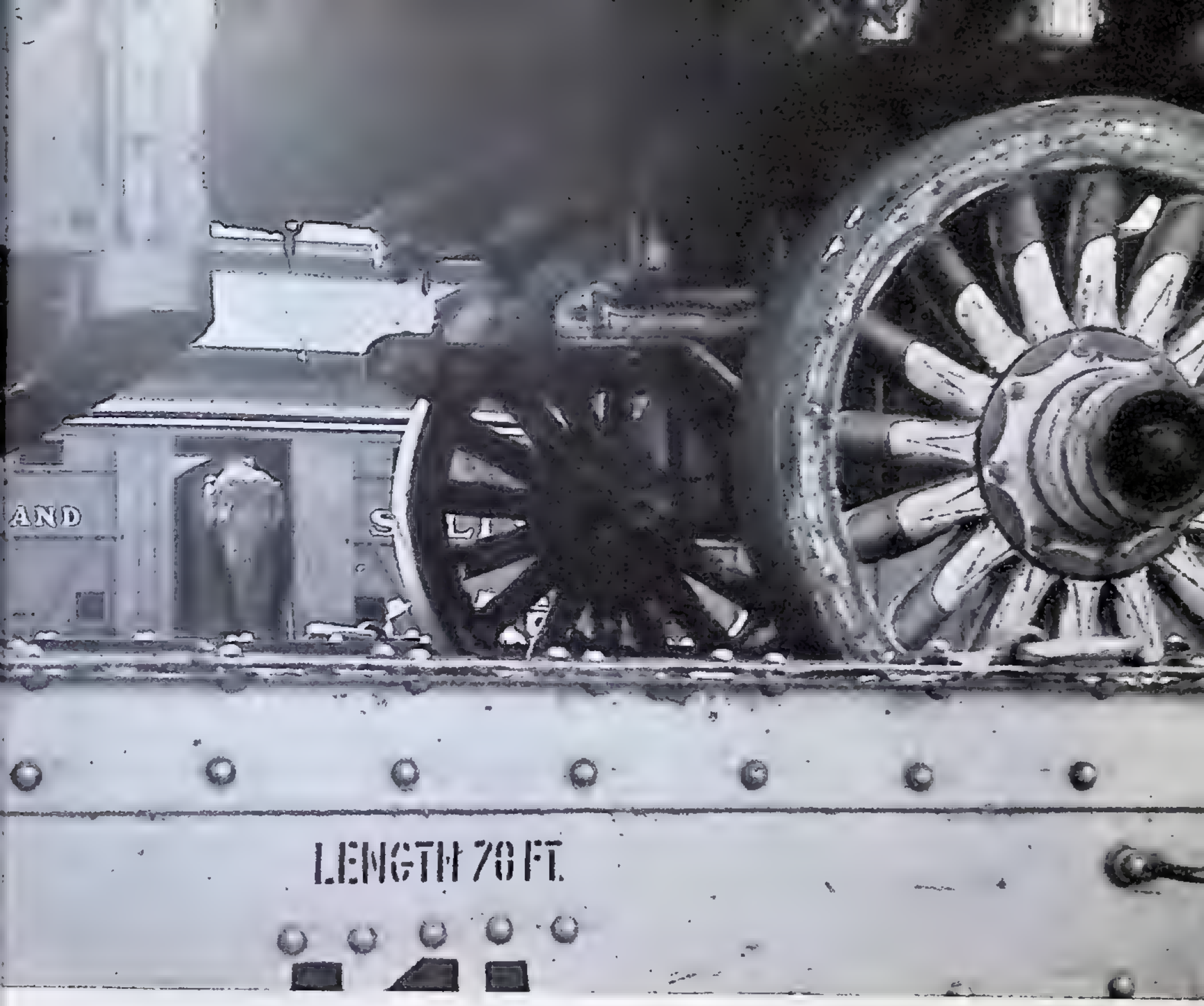
It takes tough, sturdy equipment to withstand this beating, so the next time you contemplate racing a coal train to the crossing you'd better think twice — chances are the family gas-chewer will come out second best and you'll have a ton of coal in your pants' pocket.

This is a 55-ton, 34-foot hopper car, in which two hopper gates discharge beneath the car. Some hopper cars have three and four hoppers, and gates give bottom of car a saw-tooth appearance. For some requirements, hopper gates are built which discharge to side of car instead of beneath. Track ballast distribution cars discharge load between rails, outside rails, or in combination. So-called "coal cars" actually carry a wide range of products, including gravel, ore, sand, chemicals, vegetables, and, in covered cars, cement, flour and carbon black.

Days before the arrival of the circus the barns, sheds, and store walls of the countryside are peppered with multicolored posters printed from hand-cut wood type. These children are getting a preview of a showing at West Allis, a suburb of Milwaukee. The Wisconsin State Fair Park at West Allis is ideal for a circus, because a Milwaukee Road spur track runs right into the grounds and there is plenty of room for the loading and unloading of cars. Posters on this shed at Hartland, 30 miles away, faced the main line of the Milwaukee Road.



Sometimes the circus shows at the Lakefront adjacent to the C&NW station in Milwaukee instead of at the Fair Park. Last wagons are coming off a string of flats, right, while another string waits. Small commissary tent, center, is ready for breakfast. Menagerie tent is at left.



Circus Trains

PICTURES AND STORY BY C. P. FOX

Special cars move the animals, big top and sleeping performers punctually from city to city

It was railroad transportation which made possible the large three-ring circus which is such a typically American institution. Only with railroad transportation was the circus able to by-pass all the smaller towns and show only in cities which could support a larger show.

Take the famous Barnum circus, for instance. The circus itself was actually the idea of W. C. Coup, of Delavan, Wis., who realized the famous name of Barnum would attract many more people to a circus. Barnum was sort of a silent partner. The show was pulled by horses and elephants and moved from town to town by night, the distance being limited by the wagon travel over muddy roads. It was necessary to play towns as they came regardless of population and the possibilities for circus attendance.

Coup noticed that, taking the towns and cities as they came along the wagon trail, the larger towns averaged $5000 to $7000 per day receipts while in the smaller towns the receipts were only about $2000 per day. He conceived the then original idea that by using the railroad for fast and efficient transportation he could increase the overnight distance and by-pass all the small $2000 stands and work only in the more fertile $5000 territory.

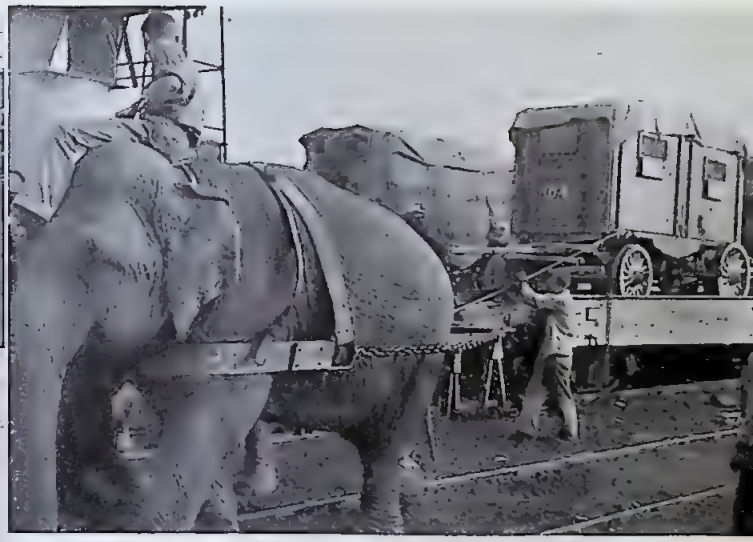
With some difficulty he convinced Barnum

Roustabouts look the city over as the pole car pulls through Milwaukee on a freight track of the Milwaukee Road. Wagons can be loaded close together after their tongues are removed. Below, moving a wagon from flat to flat in the unloading operation; horses pull, man guides the wheels. Right, starting the wagon down a ramp. The man, called a snubber, controls the wagon with a rope wound around posts in a figure eight.

that the show should ride the rails. This was in 1871. The idea was so successful that for the first time in all its history the circus made over a million dollars in the season of 1872. The increased revenue made it possible to develop the two-ring circus and later the three-ring circus, and the showmen were able to offer the public more than it could possibly see at a showing. The principle which made this the *greatest show on earth* was the use of the railroad. Other wagon shows, which were called "mud shows" soon turned to the railroad, and the circus in America became of age. Some shows now travel on trucks, since the paved highway makes it possible to move somewhat faster than in the mud road days, but these shows are still limited in size. The tendency is toward the rails, even with these shows.

A circus owns all of its own cars including special 70-foot flat cars to haul several wagons each. The principle reason for this great length is that the contracts with the railroads have always been on the per car basis. The longer car is to the advantage of the circus. Coaches for the entertainers and other circus men usually are old cars purchased from the railroads and rebuilt to circus specifications. The stock cars, like the flats, are specially built for all the lead stock, horses, elephants, etc.

As many as 100 cars are used for the larger circuses. The trains are operated in four sections. The first section starts off for the next city with the commissary department during the show. It is soon followed by the train carrying the menagerie, then comes another section with the big top, and finally the coaches with the performers who must get their sleep during the ride between towns. By the time the trains reach the next city, usually in early morning, the advance agent has arranged planks between the rails at the unloading spot, has put in any cinder fill needed and has cleared the area of bottles or tin cans which might hurt the feet of



Another view of a wagon about to descend a ramp. Elephant power is just as useful as horses to a circus. This animal is Ringling's Babe. The man holding the rope will unhook it as the wagon gains momentum down the ramp. Below, a different team pulls the wagon to the show lot. Sometimes this is just a few feet, sometimes as much as three miles from the railroad. Harnesses for all performing animals are specially made to avoid any injury or defacement of the hair or hide. A second wagon is on the way down before the first has entirely cleared. All loading and unloading operations are scheduled. Wagons are loaded in a sequence that will make unloading procedure as convenient as possible at the next town.

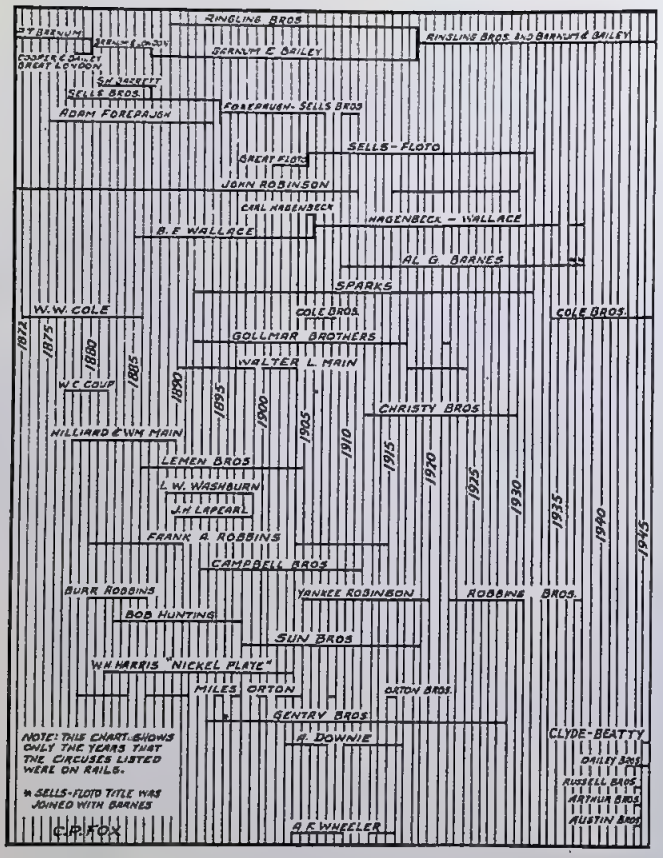
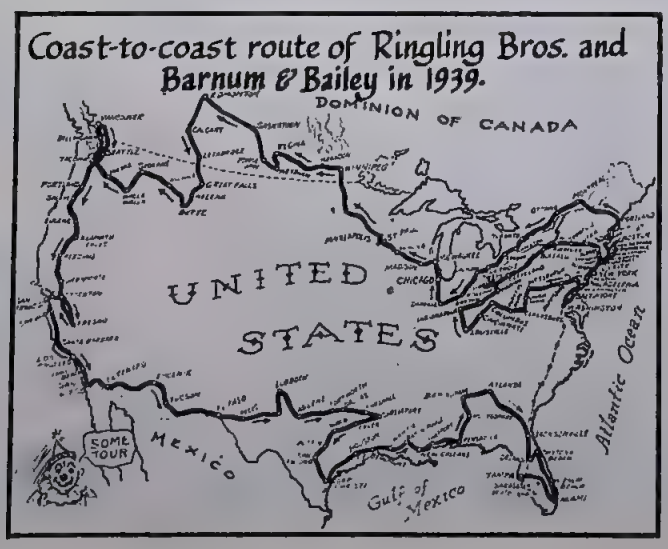


Chart shows history of railroad-borne circuses. Four are on rails this year; 1905 saw 17, and 16 ran for many years. Below, a one-season jaunt took Ringling's over 39 different railroads aggregating 17,117 miles of track. There were 1383 performances given in the 124 cities visited.



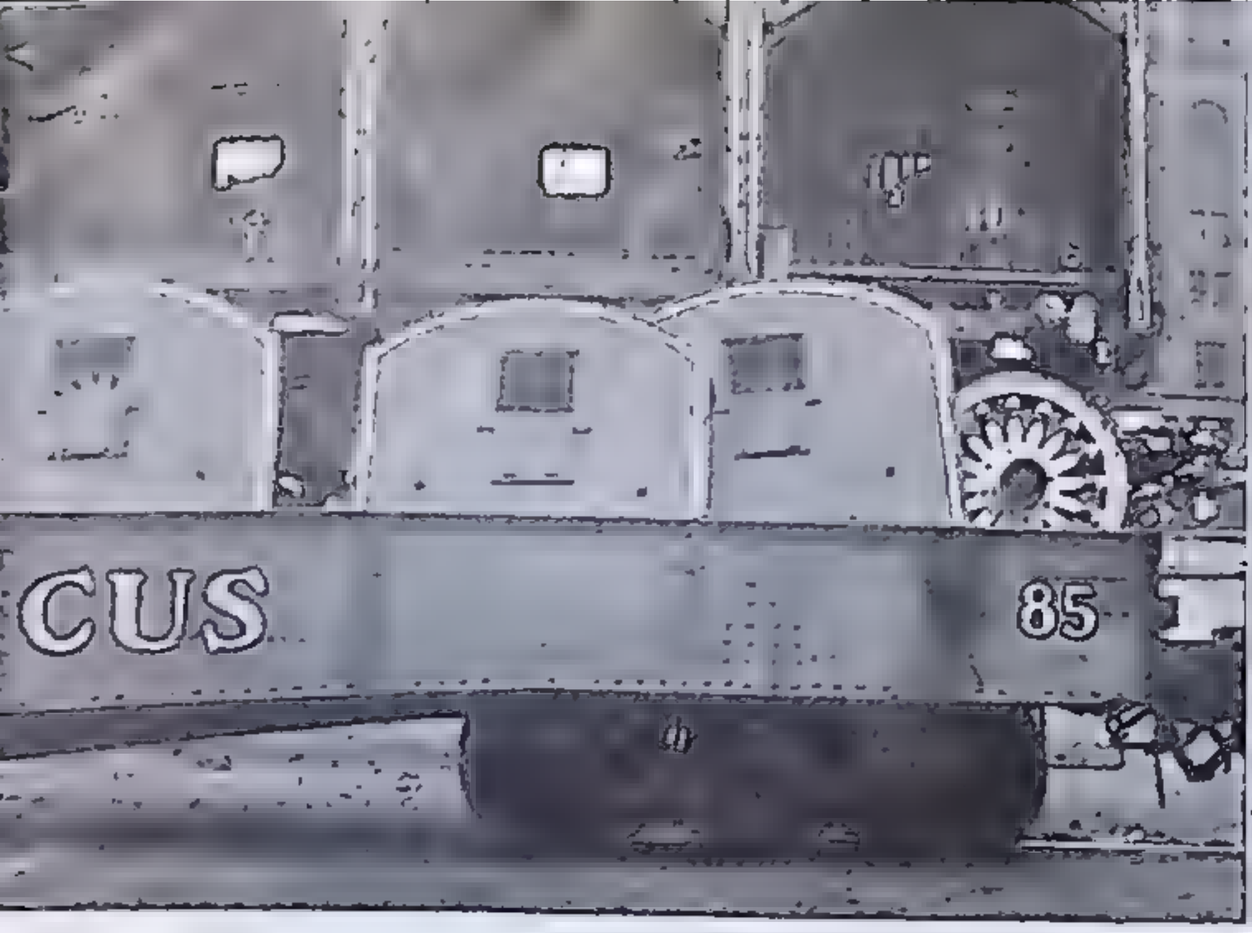
soft-footed camels or elephants.

The cars are unloaded at a convenient spot, as near as possible to the site of the circus, and ramps are put at the end of a long string of flat cars. The unloading operation is scheduled very closely, as it is important that the circus arrives at its location with the least possible confusion and as quickly as possible. By breakfast time, the commissary is ready to feed all of the workmen and entertainers and the daily routine starts all over again.

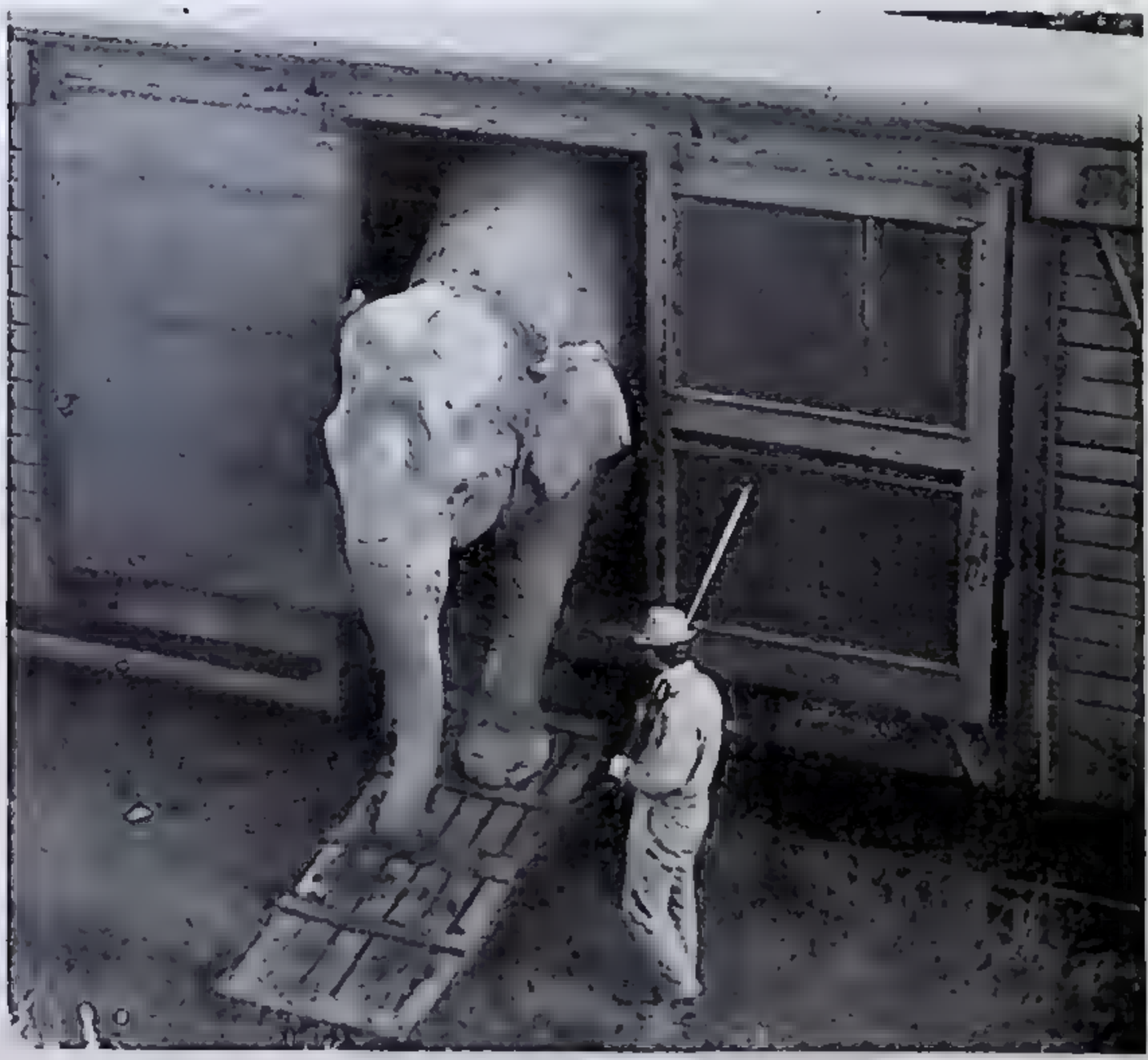
While the Barnum show has 90 and even 100 cars, other railroad shows are smaller. Cole Brothers uses about 30 cars, for instance. But all of the circuses are loaded and unloaded in exactly the same manner. Even when the Ringling show moves just 10 miles from Minneapolis to St. Paul, the loading is done the same as if the circus were going 200 miles.

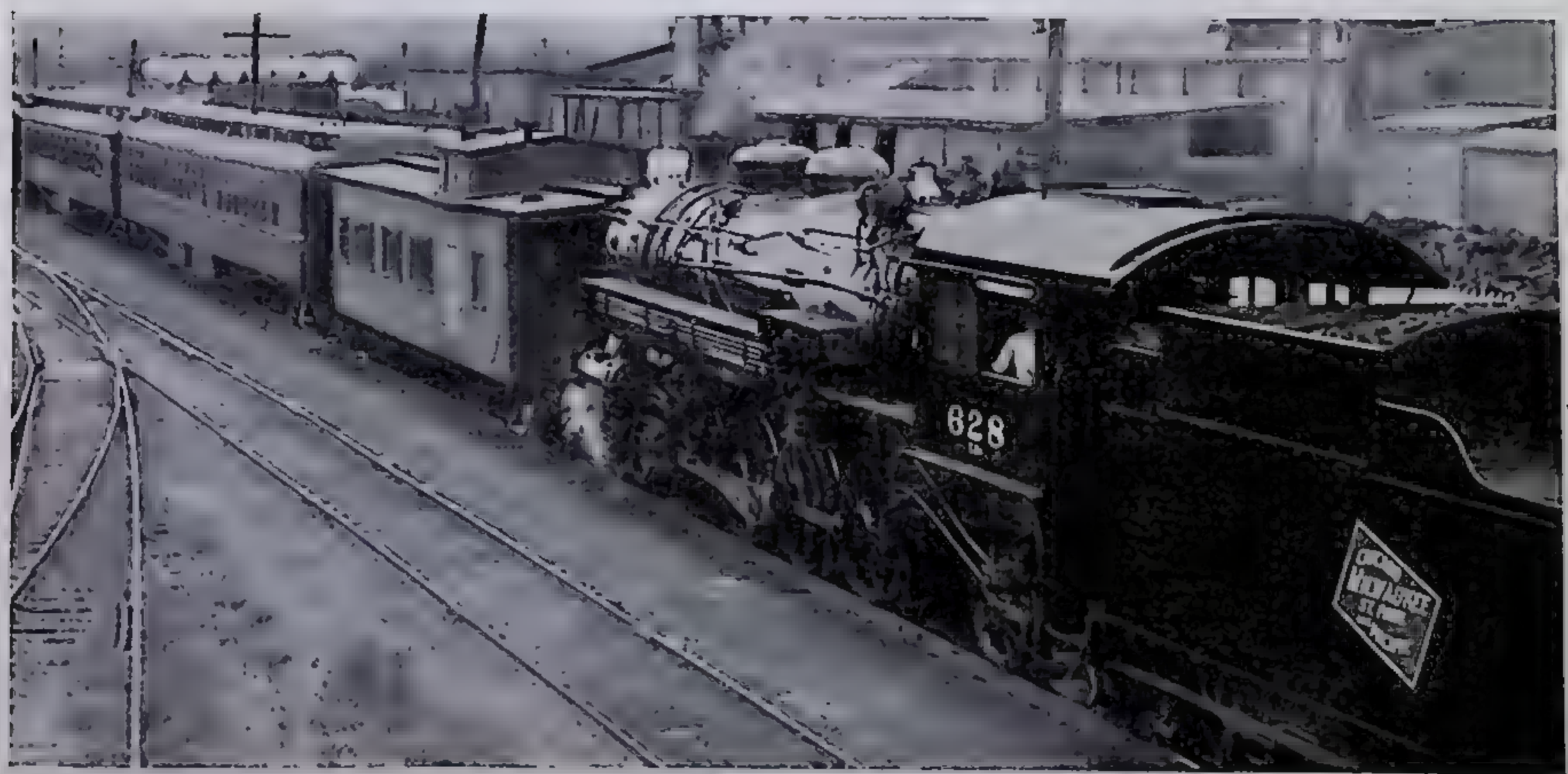
When the circus travels all day on a particularly long jump such as from Sarasota, Fla., to Madison Square Garden in New York it must stop en route to enable the men to feed and water all the caged animals. All the facilities necessary for this are prearranged by the advance man, and the elephants, camels, zebras, and horses are all unloaded and exercised, watered and fed. Ringling's carry 40 elephants and 400 horses.

The circus has a lot to say as to the route over which it will go. Sometimes it will request to be rerouted to avoid unventilated tunnels which might possibly suffocate the animals. Other times, it will go a longer way around on a mainline track rather than risk trouble with the heavy cars on a light branch. Agents traveling far ahead of the circus report conditions such as crop failures, strikes or epidemics, which would result in a poor stand, and a circus will be rerouted to a stand at a different city.



Note the special location of the hand brake on the end of the flat car. End of car must be clear for removal of wagons. Side panels on lion wagon have been dropped to give animals fresh air and sunlight at a rest stop on the long run from the headquarters at Sarasota, Fla., to Madison Square Gardens. Upper right, elephants as well as horses pull the wagons from train to location on the lot. This wagon is the answer to the problem of moving 15- and 18-foot giraffes. Real circuses are skeptical of the Disney method of cutting holes in the top of circus train cars. Instead, they built these special wagons with a low-slung floor. The animals neck stretches out horizontally and can rest upon padding. Right, Modoc alights from his car. He never is sure the ramp will hold him and tests it every time even though he has used it daily for years. Below, a Milwaukee Road Mikado moves performers' cars toward a siding at the State Fair grounds, West Allis, Wis.





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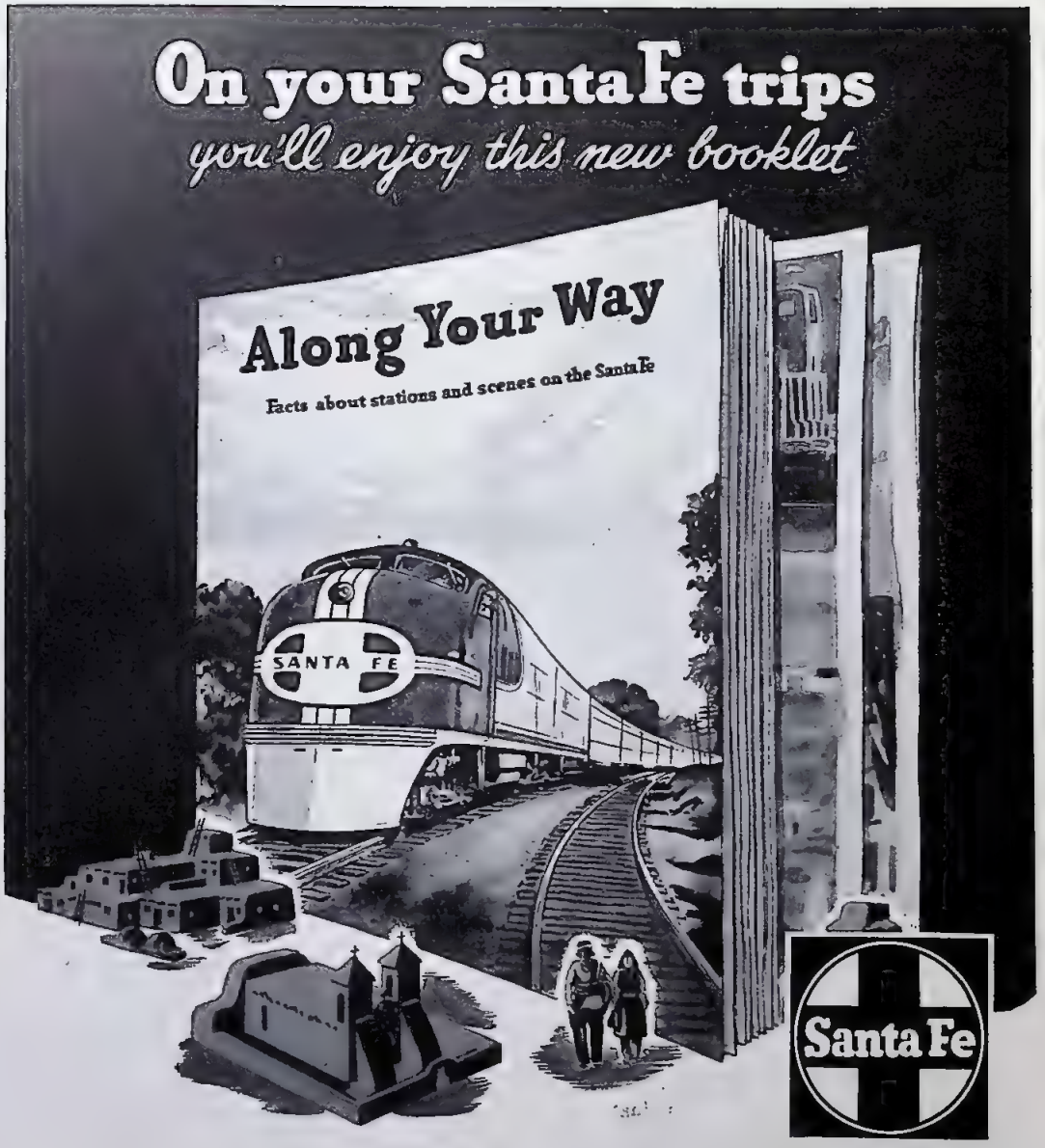
CHICAGO & EASTERN ILLINOIS railroad

The Chicago Line



"ALONG YOUR WAY" is a guidebook of the entire Santa Fe. It is packed with interesting facts, photographs and information about states, cities, towns and historic points on the Santa Fe lines.

You will read about such world-famous scenic spots as the Grand Canyon and Carlsbad Caverns, and also about the missions, guest-ranches, "cow-towns," resorts, mountain peaks, Indian pueblos, pre-Columbian ruins and other travel objectives in the Southwest.

If your trip takes you through or to California, Arizona, New Mexico, Texas, Colorado, Oklahoma, Kansas, Missouri, Iowa or Illinois, you'll find "Along Your Way" an important, helpful traveling companion.

For your copy of this booklet write T. B. Gallaher, General Passenger Traffic Manager, Santa Fe Railway, Room 1754 Railway Exchange Bldg., Chicago 4, Illinois.

RUNNING EXTRA

Ladies and Gentlemen. . . . In this corner, Linnaeus H. Westcott, weighing in at 174 pounds, redheaded and editorial director champeen of the world. Well, at least editorial director champeen of TRAINS magazine, which to this modest column is really out of this world.

Linn has been on the staff of TRAINS for as long as the idea of such a magazine has been given thought, which means just about 10 years. During the 5½ year life of TRAINS, Linn was first its art and layout departments, doing all the work himself. Then, as the staff was increased, he took charge of those departments, selected type faces, made changes in layout design and studied the various processes for using and reproducing color.

Since maps are an important part of many of the articles appearing in TRAINS, Linn put to good use his wide knowledge of map making, and during the war worked after office hours editing military maps for Uncle Sam. At this point we'd like to point out that Linn's knowledge of maps is so keen that one can show him a small section of almost any U. S. Geological Survey quadrangle having a railroad line running through it and he'll tell you the name of the railroad, why it was built, where it was, and perhaps some of the various proposed routes for it before actual building got under way.

Linn is an easy going feller, not easily riled, has a charming wife whose name is Harriet, and two blond young uns name of Jane, the elder, and Paul, the younger.

Besides the above-listed accomplishments of Linnaeus are these: he is a whizz at electrical signal control systems, he has mastered photography under a well-known Russian teacher, he has traveled Europe and part of Africa and knows these United States from terminals to terminals. Linn spends many hours trying to swell his collection of 1200 Ampico reproducing piano recordings both by making his own rolls and by hunting in music and secondhand stores. He is currently building an oscillograph from used radar equipment. To top it all off at 32 years of age he is the vice-president of Kalmbach Publishing Co.

Railroad

Hudson & Manhattan

In your excellent April issue commemorating the 100th anniversary of the Pennsylvania Railroad, your attention is directed to two errors in reference to the Hudson & Manhattan. On page 28 it is stated that the H&M is controlled by the PRR, and on the map on pages 36 and 37 the H&M is identified as "PRR owned."

Dwight Richardson, Harrisburgh, Pa.

[The Hudson & Manhattan is an independent company owning and operating a double-track tunnel system from Jersey City and Hoboken under the Hudson River at two places, to terminals on Manhattan Island. This company and the PRR operate jointly an extension of this system on PRR right of way to the Newark Station on PRR's main line. PRR tickets are good on H&M between Newark and lower Manhattan.—*Ed.*]

Obituary

The Union Transportation Company's engine No. 7 shown in TRAINS September, 1942, has been taken away to be scrapped. This road runs between Pemberton and Hightstown, N. J., serving Ft. Dix. If you were ever stationed at Ft. Dix during the war, you would have seen old No. 7. Another engine of the same type from the Pennsy will operate on the line now.

Granville Thomas, Millville, N. J.

A Northwest Passage

The Great Northern Railway is building a new hotel at Appleyard (Wenatchee), Wash., and expects it to be completed by June 15, 1946. It will be for trainmen whose runs terminate at Appleyard. The building will be a two-story frame building costing around $125,000 with 60 single rooms, six double rooms, a dining room, lobby, kitchen, manager's quarters, cold storage room, and central bathrooms. It will be built across the highway and south from the old Terminal Hotel. Another thing you might be interested to know about is a contract with Russia, negotiated by the treasury department, that enables the iron and steel industries in Oregon to resume assembling railroad engines for the Soviet Union. They are now completing 98 unassembled engines held up at Portland when lend-lease was halted.

W. E. Thayer, Chelan, Wash.

Australian Digest

I recently rode on a branch of the West Australia Government Railway branch line to Kalamunda. On this 12-mile trip there are four switchbacks and grades of 5 per cent, with curves that would stagger a street car. Ordinarily they use a Garratt engine with a limit of 80 tons per train. On my trip a very small Mogul did the job with two coaches. The engine was so small that the driver's seat was in the tender. I sat behind him on the coal with my head above the cab roof, but had to get down on account of the smoke and cinders. Owing to the pitch of the track the boiler had to be kept full to keep the crown sheet covered and this meant stopping to pump water. On the WAGR enginemen do not specialize in passenger or freight runs or have regular trains. They report for work when called and fill in the eight hours with whatever driving is to be done; a driver will come in on the "express" and if

★ Due to the continuing and increasing shortages of paper, printing machinery and skilled labor, the distribution of this issue of Trains has been dras-

Mail

his time is not up he fills out the rest of the shift on the yard engine. They are paid according to the class they are in which is determined by seniority, there being three classes. As in most countries of the world, many qualified drivers have to work as firemen—and young firemen still act as cleaners and call boys.

Courtland Christiani, Department of State, Washington, D. C.

Under Twelve?

I had a round-trip international ticket through Mexico, from Matamoros through Monterrey and Torreon to Juarez. On the first leg I was so busy with the immigration inspector that I forgot to watch the conductor, and when I got off at Monterrey and examined my ticket I found that he had evidently not been familiar with our quaint American way of printing tickets, and had punched it in the first convenient square, marked "Half fare if punched here." I spent the night wondering what would happen on the train to Torreon next morning, and hoping that that conductor, too, would not know enough English to notice what had happened. No such luck—he detected the punchmark immediately; but I had no trouble in convincing him that it was an error, and all ended happily. Fortunately he detached that particular coupon, so I did not have to argue it out with all the conductors from there to San Francisco and back.

Albert Sprague Coolidge, 38 Coolidge Ave., Cambridge 38, Mass.

Railroads Need More Advertising

It is my considered opinion that the majority of servicemen are coming back to civilian life determined to stay as far away from railroad travel as they can. Indeed I have heard this determination expressed in no uncertain terms many times by men who had never ridden in trains at all before the war and so had no idea of what the roads were able to offer. And they certainly have no intention of finding out what is to be offered again. I believe that these men and their families form a group large enough to cause a serious loss of prestige to the railroads. We realize that the lines have been helpless to do anything about it and have been justifiably proud to have moved the men at all, under any conditions. But I do hope that the many exciting improvements that you mentioned will be sold to the very limit, especially to this antagonized potential market. One would hardly expect the carriers to invest so much in new passenger equipment without safeguarding their investment with intensive advertising, and indeed the beginnings of their campaigns have already appeared in the magazines.

Kent Day Coes, 22 Seymour St., Montclair, N. J.

Discerning Ear

Many Richmond, Fredericksburg & Potomac engineers supply their own whistles and several Atlantic Coast Line whistles are on the roster. The latest is one from the Seaboard Air Line. One locomotive sounds very much like the 100 series of Western Maryland locomotives.

Elwood G. Mateer Jr., College Ave., Ashland, Va.

tically curtailed. If your friends cannot get copies, please loan them your magazine until we are able to return our newsstand distribution to normal.

SECOND SECTION

The American Federation of Advertisers held their first national postwar convention in Milwaukee during the latter part of May. Delegates to the convention registered at the Kalmbach booth for a drawing which was held on the last day, after which a mystery door prize was awarded. Out of the hundreds of names in the barrel the winner turned out to be Martha Dunlap, executive secretary of the National Truck Leasing System of Chicago. And guess what the representative of the Truck Leasing System won? Two de luxe bound volumes of TRAINS railroad photographs.

* * *

We have a limited number of back issues of TRAINS available for the years 1943, '44, '45 and '46. The following copies may be ordered at the regular price of 25 cents each:

1943: March, May, September, October or November.
1944: April, June, September, October, November or December.
1945: June, October, November or December.
1946: January, February, March, April or May.

Also available in larger quantities are the following five issues: April, 1943; March, May, July or August, 1944. These may be purchased in one lot with no substitutions at five for $1 or singly at 25 cents each. Here are some of the titles included in these five-for-a-dollar specials:

April, 1943:
- Baltimore Belt Line By Larry Sagle.
- Yosemite Valley Railroad
- Pennsylvania Special
- By Rail to Guatemala By Wayne Leeman.
- The Bear and the Semaphore By H. P. Scott.

March, 1944:
- Chicago Union Station By Henry D. Rennwald.
- Railroads of Massachusetts By Edward P. Sanderson.
- Adventure in Mexico By Wayne Leeman.
- Short Lines A photo story.

May, 1944:
- Los Angeles Union Station By Wayne Leeman.
- I've Been Riding the Pullmans By Roy Clark.
- Empire Builder at Marias Pass A photo story.
- Railroads of Italy By Arthur L. Stead.
- Railroads of Maryland By E. L. Thompson.
- A Ton of Tools By Roy L. Martin.

July, 1944:
- Herr Goebbels Was Wrong By Elmer T. Howson.
- Peoria Gateway By Dave Lewis.
- Radio on the Railroad By A. C. Kalmbach.
- The Far-Reaching Santa Fe A photo narrative.
- Pennsylvania Pygmy (The Coudersport & Allegheny) By Thomas U. Johnson.
- Kauai Island Sugar Railroad A photo feature.
- Narrow Gauge on Oahu Island By Lieutenant William Moore.

August, 1944:
- The Show Must Roll By Frank Ellison.
- Montreal's Railroads By W. A. B. Davidson.
- UP's Portland Rose A photo feature.
- Up the Columbia on the SP&S By Victor H. White.
- A Day at Geneva, Ill. By Henry J. McCord.
- Baltimore to Harrisburg, PRR Photo story by William Moedinger Jr.

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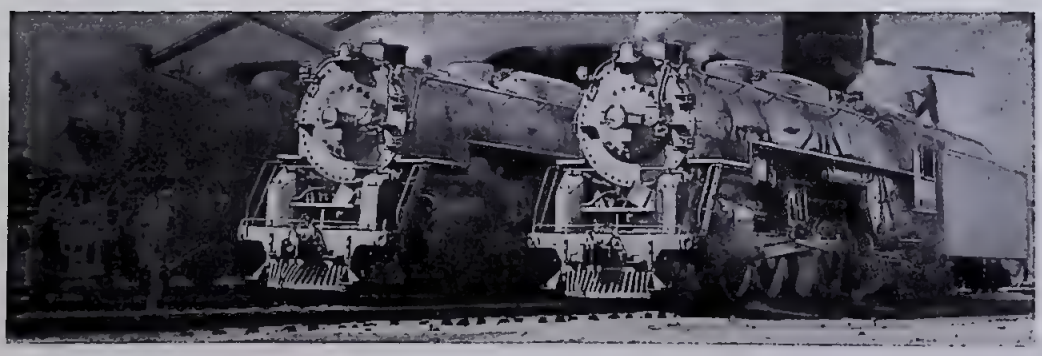

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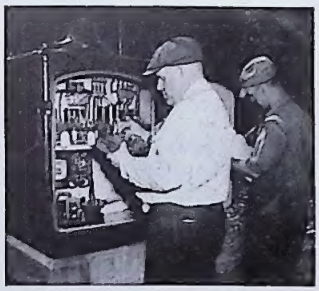
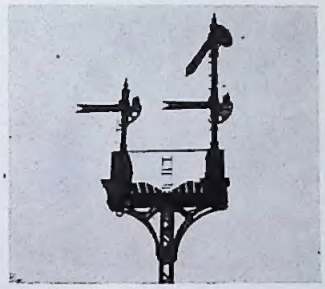
LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

Can you keep your signals straight?



1. Making a ..... test.
a. switch obstruction b. signal relay c. timing



2. These lower quadrant automatic signals tell the engineer to .....
a. prepare to stop at next signal b. proceed c. stop and proceed

3. Making a .....
a. signal test b. relay system change c. a switch obstruction test

4. This is called .....
a. an automatic semaphore signal b. a colorlight signal c. a caution signal

5. Here is shown a .....
a. disc signal b. bullseye signal c. three unit colorlight automatic signal

6. These are .....
a. automatic block signals b. upper quadrant semaphore interlocking home signals c. position light signals

The captions for these photos can be correctly completed by inserting the proper group of words from the three listed under each. Can you pick the right ones? Three correct answers are average; four good; five or more excellent.

The signals and devices shown above are part of the Erie's vast signalling system. All play a vital role in assuring safe, dependable transportation for both passenger and freight.

FREE LEAFLET!

If you'd like to learn the answers to this quiz, and more about Erie's signalling system, send this coupon today for your free copy of "Traffic Lights of the Rails".

Erie Railroad

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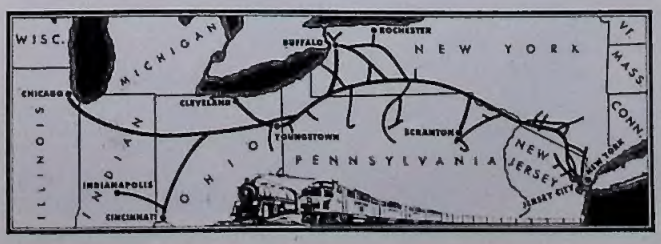

R. B. Rogers, Passenger Traffic Mgr., Erie Railroad,
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A YOUNG INDUSTRIAL *Empire!*

THE MIDWEST, for a century America's greatest producer of Agricultural Wealth, is forging rapidly to the front as a new Land of Industry. Blessed with natural resources second to none, it offers unexcelled opportunities for industries to progress and prosper. The Midwest has energetic, progressive people; healthful climate; fertile soil; abundant power resources; raw materials in infinite variety; and transportation of unsurpassed efficiency, over a vast network of railroads, of which an important link is

THE MINNEAPOLIS & ST. LOUIS RAILWAY

To the many industries now on its lines in Minnesota, South Dakota, Iowa and Illinois, and to the many other industries seeking advantageous locations in the Midwest, the M & St. L. Railway offers Fast, Dependable Freight Service.

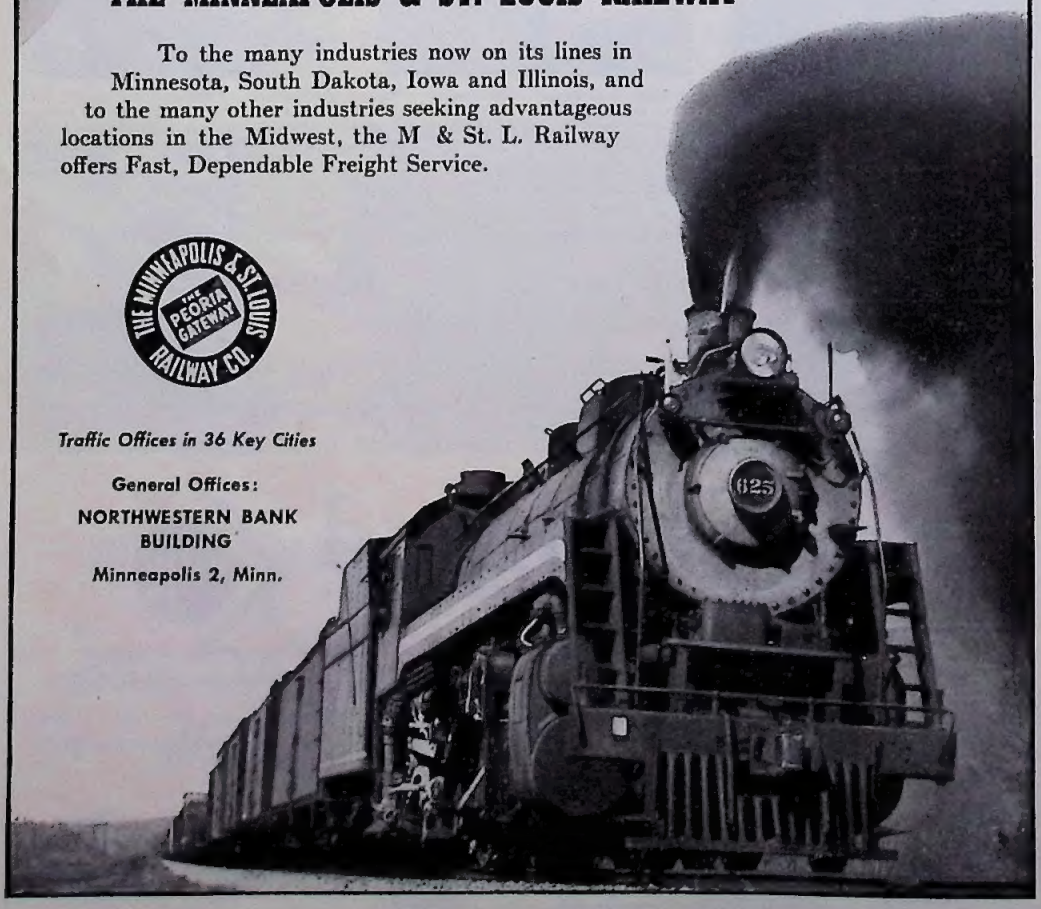
THE MINNEAPOLIS & ST. LOUIS RAILWAY CO. — THE PEORIA GATEWAY

Traffic Offices in 36 Key Cities

General Offices:

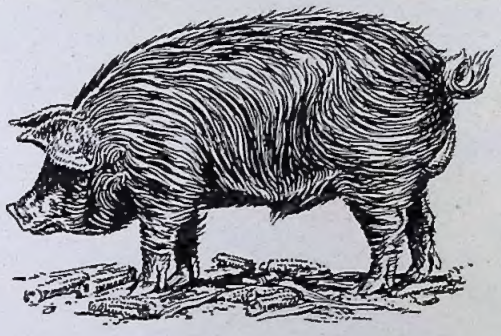
NORTHWESTERN BANK BUILDING

Minneapolis 2, Minn.



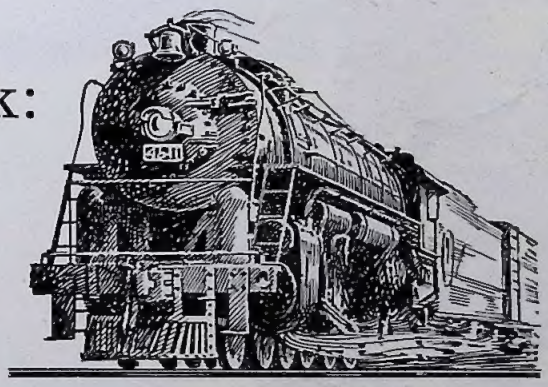
In plain language:

Hog=



In trainmen's talk:

Hog=



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A Great Railroad!=

FRISCO LINES

ST. LOUIS-SAN FRANCISCO RY.

Everywhere there is talk of Frisco's vast development program . . . its straighter, smoother, faster roadbed . . . its shortened schedules . . . its 600 new freight cars . . . its smart new ultra-modern Diesel-powered streamliners, the Meteor "Flash" and Texas Special . . . all the great things made possible by Frisco's expenditure of millions!

GREAT THINGS ARE HAPPENING ON THE FRISCO

Bryce Canyon National Park

UTAH

a bowl of glowing embers

The temples and domes, the fantastic life-like images of Bryce Canyon National Park comprise a vast gallery of Nature's masterpieces that one can readily imagine were hewn out of stone by giant sculptors. Swept by sunlight, the canyon is transformed into a bowl of glowing embers.

Bryce Canyon and Zion National Parks in Utah ...and Grand Canyon National Park in Arizona present a wealth of bewildering and colorful beauty. All three Parks are closely connected by scenic highways.

There are moderately priced accommodations for stay-over visitors. Or you can see these wonderlands on a short side-trip when enroute to or from California via Union Pacific.

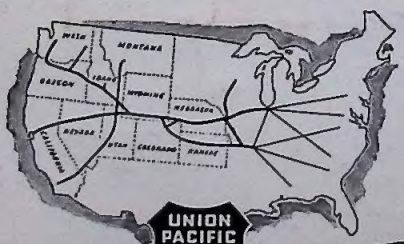
Go by train and enjoy complete rest and relaxation. Your rail journey will be a vacation in itself.

Union Pacific provides a wide variety of fine service to and from the West; swift Streamliners ...modern Limiteds . . . and popular Challengers, famous for comfort at low cost.

More western scenic regions are served by Union Pacific than by any other railroad. These include Colorado, Yellowstone National Park, California and the Pacific Northwest. It's the world's greatest vacation travel bargain.

Attention—Amateur Photographers!

Prizes totaling $4,500 awarded for movie and still photos taken in So. Utah-Arizona National Parks. For Contest Rules and Official Entry Blank, write Photo Contest, Room 120-W, Union Pacific Bldg., Omaha 2, Nebr.



be Specific – say "Union Pacific"

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The Progressive

UNION PACIFIC RAILROAD

ROAD OF THE *Streamliners* AND THE *Challengers*